

## Inside Dope

By GEORGE  
F. TAUBENECK



Learn to live and laugh —  
thus delay your epitaph

### Stories of the Week

New Use for  
Tranquilizers?  
Cause for Alarm?  
Style Consciousness vs.  
Price Cutting  
Price Has Taken  
Back Seat to Prestige  
Self-Improvement Urge  
Dealer Responsibility

### Stories of the Week

There are plenty of people who ignore facts. On a guided tour of Civil War battlefields the interlocutor recited instance after instance of a handful of Grays routing regiments of Blues.

"Didn't the Yankees ever win?" probed a New Yorker.

"Not so long as I've been directing these tours," prided the guide.

"Don't you wish your Daddy would go out and buy a new baby?" somebody teased Doratheia.

"Buy one?" she laughed. "My Daddy's a do-it-yourself man."

### New Use for Tranquilizers?

An African court has ruled that a houseboy committed no crime when he put herbs in his employer's tea to make him "more docile." Government chemists found the herbs had no ill effects.

"No law appears to cover this matter," the judge told the defendant. "You are found not guilty."

Employers who want to stay mean had better brew their own coffee hereafter.

### Cause for Alarm?

It's no secret that industry sales are disappointing to a great many people thus far this year. The weather has been singularly uncooperative (even rich-but-normally-dry Texas is a-wash) and hired money is tight.

To be sure, wise men like John Norris, president of Lennox Industries, are not discomboobered. "There's no such thing as an ever-rising business curve," he observes. "You take two steps forward, then fall back one before moving ahead again. It's a mistake to expect every year's sales to exceed all past records."

Mr. Norris does not deny, however, that our industry is plagued by weak selling efforts, and vacillation in face of temporary adversities. It all boils down to the foolishness of un-

(Continued on Page 22, Col. 4)

## Price Cuts Are Root Of Industry Troubles

("Conscience of the Industry" Editorial by George F. Taubeneck)

PRACTICALLY NOBODY is satisfied with business conditions today. Manufacturers are unhappy because their perpetually rising sales curves are zagging a bit when they had counted on more zigging.

Wholesalers, contractors and dealers complain that they aren't making enough money.

Everybody blames the weather, tight money, high taxes, inflation, the budget, and whatnot.

Trouble is, actually, that too many of us aren't SELLING BENEFITS to the user. Rather, we are overfascinated by price.

Chief gripe of nearly every dealer, distributor, or contractor we interview nowadays is the price-cutting done

(Concluded on Page 26)

## 500 May Attend Southern Calif. RACCA Adopts Standard ASHAE Canada Warranty for Cooling, Refrigeration Meeting June 24

NEW YORK CITY—An attendance of approximately 500 from the United States and Canada is expected for the semi-annual meeting of the American Society of Heating & Air Conditioning Engineers in the Manoir Richelieu, Murray Bay, Can., June 24-26.

The three-day meeting, which will be called to order by Society President P. B. Gordon, New York City, at 2 p.m. on Monday, June 24, will consist of six sessions at which 14 papers and two symposiums will be presented.

A symposium on air conditioning instrumentation is scheduled for Monday afternoon with ASHAE Treasurer C. H. Pesterfield, E. Lansing, Mich., as chairman and R. N. Pond, (Concluded on Page 8, Col. 5)

## 2-Mo. Shipments Of Compressors Rise over 11%

WASHINGTON, D. C.—Manufacturers' shipments of compressor bodies used in air conditioning and refrigeration units were up more than 11% in the first two months of this year as compared with the same period a year earlier, it is reported by Geo. S. Jones, Jr., managing director of the Air Conditioning & Refrigeration Institute.

The figures, which do not include compressors used in household refrigerators, were compiled from reports made to ARI by manufacturers whose output is estimated to represent in excess of 90% of the industry, he said.

Actual shipments for the two-month period totaled 856,261 compared with 770,964 in the first two months last year. These totals do not include compressors designed for use with ammonia refrigerants.

Of the two-month total, 105,808 of the compressor bodies (Concluded on Page 51, Col. 2)

LOS ANGELES—A standard warranty and guaranty for the refrigeration and air conditioning industry of southern California has been adopted, first by

## G-E Room Unit Dept. Moves Early

ERIE, Pa.—Room air conditioner department of General Electric Co. will be transferred from here to Louisville, Ky. June 14, a month earlier than originally scheduled, a company spokesman said.

Change in plans was made "because all production quotas for 1957 models have been met and production of 1958 models is scheduled to begin in July," it was pointed out.

G-E's room air conditioner department's 800 employees are being reassigned "as much as possible" to other departments in the Erie plant, the spokesman indicated. Workers will take vacations when the room unit department ends operations here and will be called back "as jobs are found for them."

## Alarm System Protects Frozen Foods from Refrigeration Failure

NEWARK, N. J.—An alarm system designed to protect frozen foods from refrigeration failures and which has been in experimental use in two Kings Super Markets is being installed in the chain's five other stores and a new one under construction, according to Allen I. Bildner, general manager.

Development of the system was announced by Bildner and Francois E. Guibert, manager of the Newark District Telegraph Co.

Believed to be the first such program set up at the retail level, the system operates from thermostats in display cases and storage freezers. Changes in temperature are indicated on a (Concluded on Page 50, Col. 3)

## How's 'Hydronics' To Describe 'Wet' Heating, Cooling?

ABSECON, N. J.—Taking note of the tremendous growth of the science of heating and cooling with water, the Institute of Boiler & Radiator Manufacturers proposed recently that a new name, "Hydronics," be adopted by the industry.

Introduced by Edward F. Ford, chairman of an IBR committee, at the group's annual meeting here June 5, hydronics was described by the speaker as a word that more clearly identifies the multitude of uses of controlled water for heating and cooling.

The definition of the word by (Concluded on Page 51, Col. 3)

## To Admit Public Nov. 21 at ARI Chicago Show

### Upped Interest In Home Cooling Cited

WASHINGTON, D. C.—Because of the growing interest in residential air conditioning, as well as refrigeration equipment, the show committee of the Air-Conditioning & Refrigeration Institute, sponsor of the forthcoming 10th ARI Exposition, has decided that the public will be invited to attend and view exhibits in the Chicago International Amphitheatre on Thursday, Nov. 21, it was announced.

The Exposition, slated for Nov. 18-21, will occupy about 100,000 sq. ft. of net exhibit space in the International Amphitheatre, ARI said. This is approximately 15% more exhibit area than at the 9th Exposition held in Atlantic City in (Concluded on Page 51, Col. 1)

## Stockholders Vote Us Airco Merger

WILMINGTON, Del.—Shareholders of U. S. Air Conditioning Corp., at a special meeting here, voted to merge with Hughes-Keenan Corp.

The merger will be in effect as soon as details can be worked out and approval is received from state and Federal regulatory authorities.

Glenn W. Way, chairman of Us Airco's executive committee, who presided at the conclave, said the merger would probably be consummated sometime early this month.

The merger was approved by slightly over two thirds of the company's common shares. A spokesman stated that a clause (Concluded on Page 50, Col. 4)

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Dependable Prescription for Refrigeration & Air Conditioning Equipment

**Always Specify**  
**Rx READING**  
**Copper Tubing**



Made by Copper Tube SPECIALISTS

**READING TUBE CORPORATION**  
EMPIRE STATE BUILDING NEW YORK 1, N. Y.  
WORKS: READING, PA.

## Detroiters Try To Spark Youth-Interest In Conditioning, Refrigeration Career

DETROIT—Industry men and educators here have tackled the problem of creating interest, among young high school students, in air conditioning and refrigeration careers.

Disturbed by the lack of youngster knowledge of or interest in this field, a Detroit group met recently to discuss ways and means of stimulating curiosity about the air conditioning and refrigeration industry.

One result of the discussion was a pamphlet entitled, "Your Future in Air Conditioning," underwritten by the group. It is to be distributed to high school vocational counselors.

The pamphlet, colorfully designed by a 12th grade art

student at Cass Technical high school, explains the unlimited possibilities the industry offers. It admonishes intermediate and high school students to begin now in their preparation for college engineering courses.

"When you study air conditioning and refrigeration," the message reads, "you also learn a lot about electrical power, physics, mechanical drawing, chemistry, welding, and machine practices. The principles of hydraulics, pumps, and gas flow are also studied. Of course you will also learn English, mathematics, and social studies to prepare yourself for college."

"You can begin the study of this industry in high school. You will then be eligible to be a technician and/or sales engineer when you graduate from high school. Then, if you wish, you can go to college. Choose a study course that has a future!"

Cass Technical High School here offers a course in air conditioning and refrigeration.

Additional information about the industry, the pamphlet says, can be had by writing to Air Conditioning & Refrigeration Wholesalers, 1200 W. Fifth Ave., Columbus 12, Ohio.

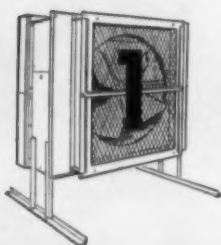
The message closes with: "Remember! What you do during your high school career will have a tremendous effect on your future."

Spark plugs in this campaign for continued supply of trained manpower, are C. H. Turnquist, instructor in refrigeration and air conditioning at Cass Technical high school, Ray Lee, Lee Equipment Co., and Jack Barager, Johnston Refrigeration Co. Engineers, contractors, and servicemen also are engaged.

**ONLY KRAMER**  
**UNICON + WINTERSTAT\***  
**GUARANTEES ALL**

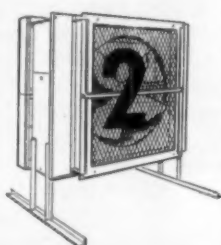
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### MAXIMUM LIQUID PRESSURE AT EXPANSION VALVE IN WINTERTIME



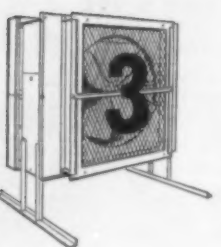
Only the Kramer UNICON plus WINTERSTAT guarantees the full refrigerant pressure at the expansion valve for full cooling capacity — even at below 0°F outdoors — automatically!

### MAXIMUM SUMMER CAPACITY WITH PATENTED WINTERSTAT



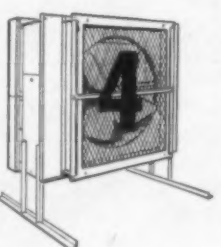
Only Kramer UNICON plus WINTERSTAT guarantees maximum condensing capacity in summer. In hot weather, the patented WINTERSTAT is out of the refrigerant circuit, permitting normal drainage from the condenser without restriction. This assures maximum condensing capacity in summer — automatically!

### PROMPT DEFROSTING AT ANY OUTDOOR TEMPERATURE



The use of UNICON plus WINTERSTAT makes Kramer THERMOBANK the only low temperature system that can guarantee operation and complete defrosting at any outdoor temperature—even 0°F or lower — automatically!

### IMMEDIATE COMPRESSOR START-UP REGARDLESS OF OUTDOOR WINTER TEMPERATURE



Only Kramer UNICON plus WINTERSTAT (using modification #1) ensures positive and immediate compressor start-up with pressurestat operating the system, regardless of outdoor winter temperatures at the UNICON and regardless of length of compressor lay-off — automatically!

\*UNICON is a remote type air-cooled condenser WINTERSTAT is a year 'round automatic head pressure control  
WRITE FOR BULLETIN U-210-L

**KRAMER TRENTON CO. • Trenton 5, N.J.**

43 YEARS OF CONTINUOUS ACHIEVEMENT IN HEAT TRANSFER

### 30-Day Weather Outlook

WASHINGTON, D. C.—The U. S. Weather Bureau, in its 30-day outlook for June, said above normal temperatures are predicted for the West Coast, Gulf Coast, and southeast.

Temperatures are expected to average below seasonal normals over the northern half of the nation lying between the Rockies and Appalachians. In areas not mentioned, near normal temperatures are in prospect.

Precipitation is expected to exceed normal over central portions of the nation from the Continental Divide eastward to a line extending from the eastern Great Lakes through central Texas. Subnormal rainfall is expected over much of the area east of the Appalachians as well as in the east Gulf States and Pacific Northwest.

### SALES ENGINEERS

Excellent opportunity in Baltimore to represent prominent manufacturer of Air Conditioning and Refrigeration Equipment. Contact Contractors, Engineers, Industrials and Wholesalers. Will consider direct employee or Manufacturer's Representative. Write Jay Harris, Acme Industries, Inc. 60 E. 42nd Street, New York City, New York.



## SOARING TO NEW HEIGHTS

It's up, up, up at Copeland . . . a continuous record of progress in every phase of the manufacture and distribution of highest-quality refrigeration units.

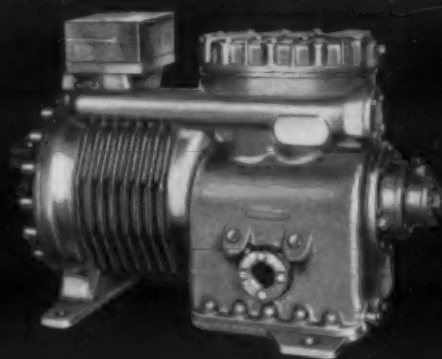
A new factory lifts our production to new heights of distinction. It also speeds up complete parts and replacement service. Thus all who handle and use Copeland equipment greatly improve their inventory position and can free working capital previously tied up.

The future grows brighter all the time for our coast-to-coast network—25,000 dealers working with nearly 150 Copeland wholesalers and more than 500 manufacturers using Copeland-powered equipment.

SINCE 1918

**Copeland**

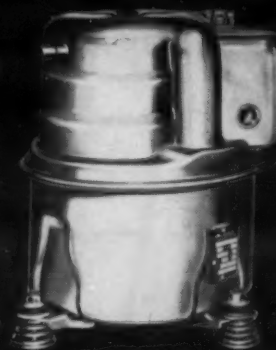
REFRIGERATION CORPORATION, Sidney, Ohio



**COPELAMETIC  
MOTOR-COMPRESSORS**



**COPELAMETIC  
CONDENSING UNITS**



**COPELAWELD  
MOTOR-COMPRESSORS**



**BELT-DRIVEN  
CONDENSING UNITS**



# Prove it yourself!

## BRUNNER

SINCE 1906

### wholesaler network shortens distance and time!

Here's the Brunner team that helps you win and hold customers... a complete line of Open-Type and Semi-hermetic refrigeration condensing units backed by 205 distribution centers from coast to coast.

When you want Brunner units or parts in a hurry, call your nearest Brunner wholesaler. It's that easy... no long waiting period for shipment from the factory, no red tape. Here's the fastest distribution service in the refrigeration and air conditioning industry.

And if you need to replace parts covered by warranty, your Brunner wholesaler will handle all the necessary details.

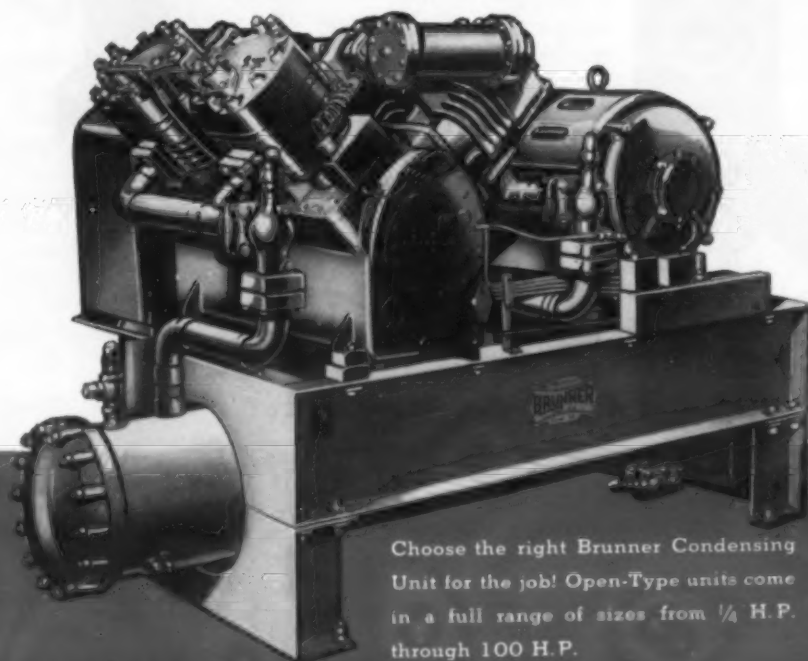
BRUNNER  
SINCE 1906

SUPPLY DEPOT

YOUR TOWN



There's a Brunner-Metic semi-hermetic condensing unit for every commercial refrigeration application... from 1/4 H.P. through 3 H.P.



Choose the right Brunner Condensing Unit for the job! Open-Type units come in a full range of sizes from 1/4 H.P. through 100 H.P.



# 205 Brunner Authorized Supply Headquarters from coast to coast... can deliver from stock

**ALABAMA**  
BIRMINGHAM.....Budlock Refrigeration Supply Co.  
MOBILE.....Refrigeration Supply Co.  
MONTGOMERY.....Nolin-McInnis Company

**ARKANSAS**  
FORT SMITH.....Central Supply Company  
LITTLE ROCK.....Refrigeration & Electrical Supply Co.

**ARIZONA**  
PHOENIX.....Authorized Supply Company  
PHOENIX.....State Equipment & Supply Co., Inc.

**CALIFORNIA**  
BAKERSFIELD.....Refrigeration Supplies Distributor  
EL CENTRO.....Allied Refrigeration Suppliers, Inc.  
EL CENTRO.....Refrigeration Supplies Distributor  
FRESNO.....California Refrigerator Company  
FRESNO.....Thermal Products, Inc.  
GLENDALE.....Arrow-Risco, Inc.  
LONG BEACH.....L. B. Marsh Allied Refrigeration Co.  
LOS ANGELES.....Arrow-Risco, Inc.  
LOS ANGELES.....Refrigeration Supplies Distributor  
LOS ANGELES.....Thermal Products, Inc.  
N. HOLLYWOOD.....Arrow-Risco, Inc.  
OAKLAND.....California Refrigerator Company  
OAKLAND.....Wm. Wurzbach Company  
RIVERSIDE.....Refrigeration Supplies Distributor  
SACRAMENTO.....Acme Supply & Equipment Company  
SAN BERNARDINO.....L. B. Marsh Allied Refrig. Co.  
SAN DIEGO.....Allied Refrigeration Suppliers, Inc.  
SAN DIEGO.....Refrigeration Supplies Distributor  
SAN FRANCISCO.....California Refrigerator Company  
SAN FRANCISCO.....Refrig. & Power Specialties Co.  
SAN GABRIEL.....Arrow-Risco, Inc.  
STOCKTON.....Refrigerating & Power Specialties Co.

**COLORADO**  
DENVER.....Thermo Supply Company

**CONNECTICUT**  
HARTFORD.....N. W. Day Supply Company  
HARTFORD.....Joseph Simons Company  
NEW HAVEN.....Resco, Inc.

**DISTRICT OF COLUMBIA**  
WASHINGTON.....Refrigeration Supply Co., Inc.

**FLORIDA**  
FT. LAUDERDALE.....Graves Broward Co.  
JACKSONVILLE.....Bowen Refrigeration Supplies, Inc.  
JACKSONVILLE.....Refrigeration Supply Company  
MIAMI.....Bowen Refrigeration Supply, Inc.  
MIAMI.....O'Brien Associates  
ORLANDO.....R. & R Supply Company, Inc.  
PENSACOLA.....Cooling & Heating Supplies  
ST. PETERSBURG.....Graves Bros. Refrig. Supplies  
ST. PETERSBURG.....Mote W. Baird & Son  
TALLAHASSEE.....Capital Refrigeration Supply, Inc.  
TAMPA.....Leo S. Bosarge Co. of Tampa, Inc.  
TAMPA.....Noland Company

**GEORGIA**  
ATLANTA.....Leo S. Bosarge Company, Inc.  
ATLANTA.....Bowen Refrigeration Supplies, Inc.  
COLUMBUS.....Hajoca Corporation  
MACON.....Graves Refrigeration, Inc.  
SAVANNAH.....Savannah Refrigeration Supply Co.

**IDAHO**  
BOISE.....Commercial Distributing Company

**ILLINOIS**  
CHICAGO.....Service Parts Company  
DECATUR.....Potter Supply Company  
EAST ST. LOUIS.....Illinois Electric Works, Inc.  
PEORIA.....Polar Supply Corporation  
ROCKFORD.....Park Distributors, Inc.  
SPRINGFIELD.....Spangler, R. H. Company, Inc.

**INDIANA**  
EVANSVILLE.....Budlock Refrigeration Supply Co.  
EVANSVILLE.....Ohio Valley Hardware Company, Inc.  
INDIANAPOLIS.....Duncan Supply Company  
MISHAWAKA.....Valley Equipment Company  
RICHMOND.....Gennett & Sons, Inc.  
TERRE HAUTE.....Budlock Refrigeration Supply Co.

**IOWA**  
BURLINGTON.....Pioneer Supply Co.  
CEDAR RAPIDS.....Thermal Company, Inc.  
DES MOINES.....Thermal Company, Inc.  
DAVENPORT.....White Refrigeration Supply, Inc.

**KANSAS**  
TOPEKA.....Refrigeration Equipment Company  
WICHITA.....Refrigeration Equipment Company

**KENTUCKY**  
LEXINGTON.....Brock-McVey Company  
LOUISVILLE.....Mill Industrial Supply, Inc.

**LOUISIANA**  
ALEXANDRIA.....The American Supply Company, Inc.  
BATON ROUGE.....Acme Refrigeration  
LAFAYETTE.....Cooling & Heating Wholesalers  
LAKE CHARLES.....Temtrol Supply, Inc.  
MONROE.....Thermal Supply  
NEW ORLEANS.....Nola Sales Company, Inc.  
SHREVEPORT.....Standard Brass & Manufacturing Co.

**MAINE**  
PORTLAND.....A. E. Borden Company, Inc.  
PORTLAND.....Joseph Simons Company

**MARYLAND**  
BALTIMORE.....Roche & Hull, Inc.  
SALISBURY.....Roche & Hull, Inc.

**MASSACHUSETTS**  
BOSTON.....A. E. Borden Company, Inc.  
SPRINGFIELD.....C. P. Payson Company, Inc.

**MICHIGAN**  
ALPENA.....J. Geo. Fischer & Sons, Inc.  
DETROIT.....J. Geo. Fischer & Sons, Inc.  
DETROIT.....Young Supply Company  
GRAND RAPIDS.....Harris Supply Company  
JACKSON.....J. Geo. Fischer & Sons, Inc.  
KALAMAZOO.....Harris Supply Company  
LANSING.....Harris Supply Company  
PONTIAC.....Young Supply Company  
SAGINAW.....J. Geo. Fischer & Sons, Inc.

**MINNESOTA**  
MINNEAPOLIS.....Thermal Company, Inc.  
ST. PAUL.....Thermal Company, Inc.

**MISSISSIPPI**  
JACKSON.....Paine Supply Company  
MERIDIAN.....Motor Supply Company, Inc.  
TUPELO.....Paine Supply Corp.

**MISSOURI**  
KANSAS CITY.....Refrigeration Equipment Company  
ST. LOUIS.....Mechanical Supply Company  
ST. LOUIS.....R. H. Spangler & Company, Inc.  
SPRINGFIELD.....John A. Rhodes Company

**NEBRASKA**  
LINCOLN.....Wickham Supply Company, Inc.  
OMAHA.....White Refrigeration Supply, Inc.

**NEVADA**  
LAS VEGAS.....L. B. Marsh Allied Refrigeration  
LAS VEGAS.....Refrigeration Supplies Distributor  
RENO.....Acme Supply & Equipment Company

**NEW JERSEY**  
AVON-BY-THE-SEA.....Wallwork Brothers, Inc.  
NEWARK.....Tesco Distributors  
NEWARK.....Wallwork Brothers, Inc.  
NEW BRUNSWICK.....Tesco Distributors  
OCEAN GROVE.....Tesco Distributors  
TRENTON.....Jaegers Sales & Service

**NEW MEXICO**  
ALBUQUERQUE.....Aircor Supply Company

**NEW YORK**  
ALBANY.....R. D. Marshall & Company, Inc.  
ALBANY.....\*W. A. Case & Son Mfg. Co.  
BINGHAMTON.....\*W. A. Case & Son Mfg. Co.  
BROOKLYN.....Excel Refrigeration Supplies, Inc.  
BUFFALO.....W. A. Case & Son Manufacturing Co.  
BUFFALO.....Jordan Supply Company  
ELMIRA.....Brady Supply Company  
MOUNT VERNON.....Eastern Supply Company  
NEWBURGH.....\*W. A. Case & Son Mfg. Co.  
NEW YORK.....Aetna Supply Company  
NEW YORK.....Albert Hofeld, Inc.  
NEW YORK.....Reese & Long Refrig. Products, Inc.  
NEW YORK.....Paramount Electric Supply Company  
PLATTSBURG.....\*W. A. Case & Son Mfg. Co.  
ROCHESTER.....Ontario Metal Supply, Inc.  
SYRACUSE.....Empire Refrigeration Supply Co., Inc.  
SYRACUSE.....W. A. Case & Son Manufacturing Co.  
UTICA.....Vaeth Electric Company

**NORTH CAROLINA**  
ASHEVILLE.....Hajoca Corporation  
CHARLOTTE.....Bowen Refrigeration Supplies  
CHARLOTTE.....Henry V. Dick & Company  
DURHAM.....Hasco, Inc.  
GREENSBORO.....Hasco, Inc.  
RALEIGH.....Noland Company, Inc.

**RALEIGH**.....Henry V. Dick & Company, Inc.  
**WILMINGTON**.....Henry V. Dick & Co.  
**WILSON**.....Noland Company, Inc.  
**WINSTON-SALEM**.....Hasco, Inc.

**OHIO**  
AKRON.....Davey Sales Company  
CINCINNATI.....Mason Supply Company  
CINCINNATI.....Mutual Manufacturing & Supply Co.  
CLEVELAND.....Cleveland Hermetic & Supply Co., Inc.  
COLUMBUS.....Mason Supply Company  
DAYTON.....\*A. & H. Supply Co.

**OKLAHOMA**  
OKLAHOMA CITY.....Jones-Newby Supply Company  
OKLAHOMA CITY.....M & V Supply Company  
TULSA.....Jones-Newby Supply Company

**OREGON**  
PORTLAND.....Refrigerating & Power Specialties

**PENNSYLVANIA**  
ALLENTOWN.....Larson Supply Company  
ERIE.....W. A. Case & Son Manufacturing Company  
ERIE.....Erie Refrigeration Supplies  
HARRISBURG.....Resco, Inc.  
PHILADELPHIA.....Acar Supply Company  
PITTSBURGH.....Orr, Inc.  
PITTSBURGH.....Proie Brothers, Inc.  
READING.....Larson Supply Company  
SCRANTON.....Central Service Supply Company  
WILKES-BARRE.....Radio Service Company

**RHODE ISLAND**  
PROVIDENCE.....A. E. Borden Company, Inc.  
PROVIDENCE.....Rhode Island Refrigeration Supply Co.

**SOUTH CAROLINA**  
COLUMBIA.....Henry V. Dick & Company  
GREENVILLE.....Henry V. Dick & Company

**SOUTH DAKOTA**  
SIOUX FALLS.....Thermal Company, Inc.

**TENNESSEE**  
CHATTANOOGA.....Peglar's, Inc.  
KNOXVILLE.....Knoxville Refrigeration Supply Co.  
KNOXVILLE.....Leinart Engineering Co.  
MEMPHIS.....Budlock Refrigeration Supply Co., Inc.  
MEMPHIS.....R. H. Spangler Company, Inc.  
NASHVILLE.....J. B. Thomas Company

**TEXAS**  
ABILENE.....C & H Distributing Company  
CORPUS CHRISTI.....S. Texas Refrig. Supply Company  
DALLAS.....Barbeck Refrig. Supply Company, Inc.  
DALLAS.....Central Engineering & Supply Company  
EL PASO.....M & M Refrigeration & Electrical Supply  
FORT WORTH.....Texas Refrigeration Supply Co.  
HARLINGEN.....United Supply Company  
HOUSTON.....Johnson Supply Company  
HOUSTON.....Lingo Company, Inc.  
HOUSTON.....Standard Brass & Manufacturing Co.  
LUBBOCK.....R & R Refrigeration Corporation  
SAN ANGELO.....Central Electric Company  
SAN ANTONIO.....United Supply Company  
SAN ANTONIO.....Westbrook Company  
TYLER.....Amstan Supply Division  
WACO.....Texas Refrigeration Supply Company

**UTAH**  
SALT LAKE CITY.....Commercial Dist. Company

**VERMONT**  
BURLINGTON.....The Blodgett Supply Company, Inc.

**VIRGINIA**  
BRISTOL.....Southern Refrigeration Corporation  
NEWPORT NEWS.....Noland Company, Inc.  
NORFOLK.....Noland Company, Inc.  
NORFOLK.....Refrigeration Suppliers, Inc.  
ROANOKE.....Southern Refrigeration Corporation

**WASHINGTON**  
SEATTLE.....Refrigerating & Power Specialties Co.  
SPOKANE.....Wakefield Supply Company  
TACOMA.....Refrigerating & Power Specialties Co.

**WEST VIRGINIA**  
CHARLESTON.....Mason Supply Company  
HUNTINGTON.....Mechanical Refrigeration Supply Co.  
WHEELING.....Mason Supply Company

**WISCONSIN**  
MADISON.....B. T. U. Equipment & Supply Corp.  
MILWAUKEE.....Thermal Company, Inc.

\*EFFECTIVE MARCH 1987

BRUNNER MANUFACTURING COMPANY, UTICA, NEW YORK  
THE BRUNNER COMPANY, GAINESVILLE, GEORGIA  
IN CANADA: BRUNNER CORP. (CANADA) LTD., TORONTO, ONTARIO



## NLRB Finds N. Y. MCA-Steamfitters Pact Provisions Discriminatory

WASHINGTON, D. C. — The National Labor Relations Board has recently found unlawful certain provisions in the contract between the Mechanical Contractors Association of New York, Inc., and the Steamfitters Branch of Local 638 of the United Association.

The provisions that violate the National Labor Relations Act "unlawfully discriminate against employees who were not union members with respect to employment and the payment of welfare pension, and educational fund benefits."

The NLRB decision was made in a case which also involved Jack Babian, a member of the metal trades branch of the local, and the Carty Heating Corp., a signatory to the UA contract.

NLRB found that Carty discriminated against Babian by firing him and refusing to rehire him because he was not a member of the Steamfitters branch. The Steamfitters branch was found to have induced Carty to fire Babian.

The union, the company, and the association were ordered to cease and desist from maintaining and enforcing the discriminatory clauses of the agreement. The company and the union were also ordered to make up the pay that Babian lost.

### Firm Opens Doors

HUNTSVILLE, Ala. — Mill Electric Co., an air conditioning, plumbing, and heating firm with headquarters in Tuscaloosa, Ala., has opened for business.

## Discontinue January and June Marts, NAFM President Urges

CHICAGO—Feeling are mixed on a proposal by the president of the National Association of Furniture Manufacturers to end annual January-June marts here by 1959 and hold the marts in April and October.

Many furniture and other home furnishings makers are lining up in favor of N. A. Eddy's idea. He is NAFM head and president of Habitat Shops, Inc., Bay City, Mich.

"Speaking for NAFM," he said, "I am confident this is what NAFM wants. First, National Furniture Design Show committee should have the market dates committee announce abolition of the January-June shows. I realize this cannot be accomplished overnight."

He suggested the committee

plan to run out the four-market schedule for this year. In 1958, the January and April markets should be held and the June Market eliminated, he added. Then the October market should be held to make it a three-market year.

In 1959, the January mart should be eliminated, Eddy indicated, and only the April and October markets retained.

One of the strongest objections came from Grand Rapids, Mich. where it was pointed out that April and October are very active selling months, and operators of smaller furniture stores do not want to be away. Big department stores and chains would be favored by the new dates, it was noted.

A suggestion from Rockford,

Ill. was that retailers should be polled on date preferences.

It was pointed out that Frigidaire Div., General Motors Corp., has new models for showing in January and would like to retain this date.

On the other hand, most major exhibitors in Grand Rapids are members of Grand Rapids Furniture Makers Guild and it seems to favor the proposed market dates.

Another problem left unanswered by Eddy was whether the June and January markets should be eliminated just because some sizable merchants want to buy in the spring and fall, and smaller dealers want summer and winter marts.

A third problem concerned non-furniture segments of the furniture industry. These categories are tied to the winter and summer markets, Eddy said. He asked "How will we get them into a spring and fall market pattern?"

Stating that January is an ideal market month for appliance dealers, A. W. Bernsohn, managing director of the National Appliance & Radio-TV Dealers Association, said retailers probably would object to elimination of the January mart.

However, some major appliance producers reportedly had no objection to the proposed changes since, as one official pointed out, many buyers have already seen the new lines by market time and other new models are introduced later.

## Ohio Bills Would Regulate Sales Of Frozen Foods

COLUMBUS, Ohio — A bill that would prohibit the sale of frozen foods after they had been thawed or melted was introduced into the Ohio senate.

The bill, offered by Sen. Joseph Bartunek, Democrat, would also require the date of packaging to be stamped on food packages, including bulk frozen foods.

Another bill before the Ohio legislature calls for the licensing, inspection, and regulation of frozen food establishments.

A third bill to establish a new cold storage warehouse inspection service would provide for condemnation of diseased, unsound, and unfit frozen foods.

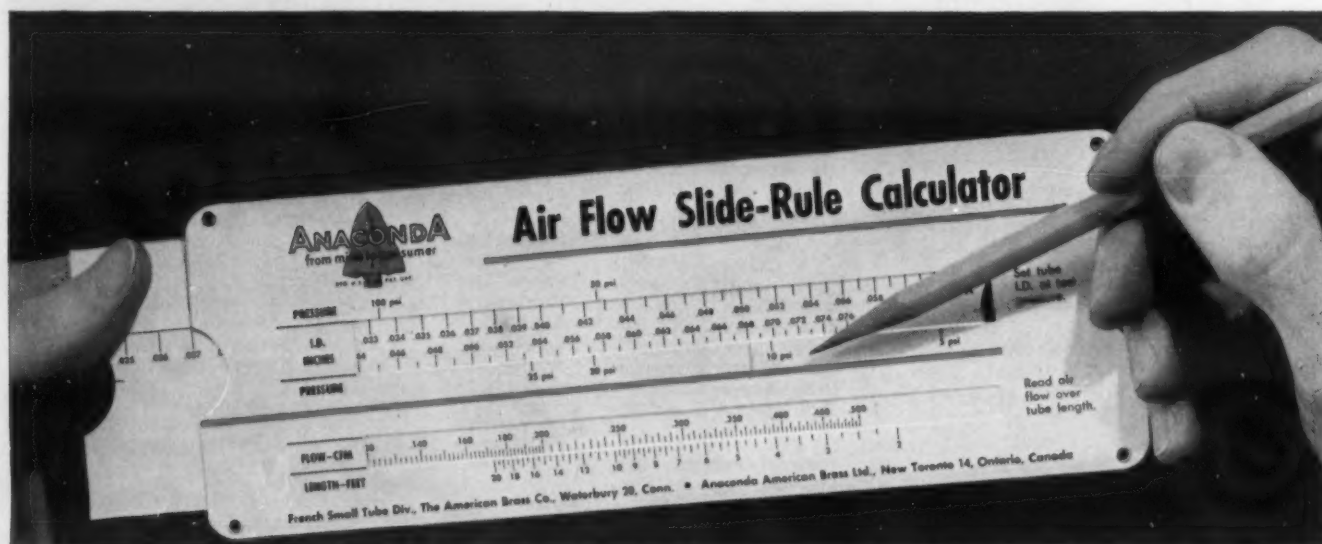
## Region 6 ARW Plans Outing June 27-30

CHICAGO—The 12th annual golf outing and meeting of Region Six, Air Conditioning & Refrigeration Wholesalers, is scheduled for June 27-30 at Nippersink Manor, Genoa City, Wis.

The Thursday evening program, June 27, features a wholesalers' and manufacturers' "round robin."

The golf tournament on Friday begins at 10:30 a.m. Cocktails are at 5:30 p.m., and dinner at 6:30 p.m., followed by entertainment. Non-golfers will have all of the accommodations of Nippersink Manor at their disposal, it was noted.

Saturday the Region 6 meeting will be held, with manufacturer participation. A dinner and floor show are scheduled for the evening.



## NOW for the first time—an easy way to determine air flow

### New Anaconda Calculator eliminates time-consuming cut-and-try method

This new slide rule was developed for engineers designing air conditioning and refrigeration equipment. The calculations, now so easy to make, are based on thousands of tests made in the laboratory and under actual production conditions over a period of many years.

**Specialists in Tubing.** The French Small Tube Division of The American Brass Company drew its first restrictor tubes back in the 1920's when hermetic refrigeration units were being developed. Ever since, it has worked closely with the refrigeration and air-conditioning industries, was one of the pioneers in helping to determine air-flow limits, and now has a broad basis of experience which is available to help you.

When you use Anaconda Restrictor Tubes you are not limited to so-called standard inside diameters. You specify the air-flow limits you need for maximum performance in your equipment—

—or simply submit samples of tube which have the desired limits of air flow. From these samples, we can readily determine the required nominal inside diameter and the over-all tolerance for any given length to possess a flow capacity within the range of these samples. An optimum tube size may meet your requirements and show a saving in cost.

**Performance measures true quality.** Specific, mutually agreed on air-flow limits are the sole basis for production. Your initial shipment will contain Master Sample Reference Tubes, which have the maximum and minimum flow capacities required. All tubes in the shipment will have been tested to meet these limits.

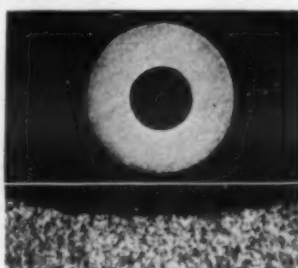
Duplicate Master Reference Samples retained in our files are the means of making certain that every tube in all subsequent shipments will have the air-flow limits established.

**Consistently high quality.** All Anaconda Restrictor Tubes are plug-drawn to finish. Unusual care is exercised in making the steel plugs, in order to produce a smooth, round inside bore as shown in the cross-section micrographs below. Every length is chamfered at both ends, inside and out. Each tube is thoroughly washed and dried, given a final test, carefully bundled, with ends of each bundle wrapped in paper. Your range of selection is broad, as Anaconda Custom-Made Restrictor Tubes are made in both copper and aluminum, in nominal inside diameters from .025 inches to .090 inches.

Write today on your company letterhead for the free Anaconda Air-Flow Slide Rule Calculator shown above. Address: French Small Tube Division, The American Brass Company, Box 1031, Waterbury 20, Conn.

A cross-section of an Anaconda Copper Restrictor Tube, .081" O.D. x .031" I.D., magnified 10X. Note the roundness of the bore.

Section of a photomicrograph magnified 200X to show smoothness of the bore.



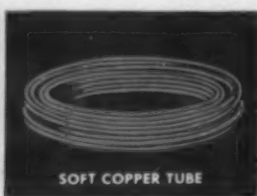
## ANACONDA<sup>®</sup> RESTRICTOR TUBES

Made by French Small Tube Division of The American Brass Company

ANACONDA PRODUCTS FOR THE REFRIGERATION AND AIR-CONDITIONING INDUSTRY



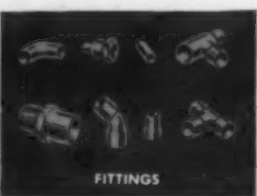
RESTRICTOR AND CAPILLARY TUBE



SOFT COPPER TUBE



HARD COPPER TUBE



FITTINGS



VIBRATION ELIMINATORS





**NEW! from Chrysler**

**AIR-COOLED!**

capacities up to  
**30 TONS!**

**Another example of Airtemp engineering leadership—  
air-cooled equipment in capacities up to 30 TONS**

Now Airtemp dealers can offer big-tonnage *air-cooled* air conditioning. In addition to 2, 3, 5, and 8 HP sizes, Airtemp now has 11, 15, 20, and 30 HP air-cooled models.

These new models give you all of these important features, too:

- Easy to install—no connecting wires between condenser and cooling unit.

- More efficient—operation at outside temperatures from 0° to 120°.
- 5-year warranty.
- Approved by Underwriters Laboratories—your assurance of safety.
- Requires a much smaller refrigerant charge.

For all the facts, mail coupon below.



**Air Conditioning and Heating  
for a Room, a Home, a Business,  
an Automobile**

**AIRTEMP DIVISION, Chrysler Corp.**

**Dayton 1, Ohio**

Gentlemen: Please rush full information on new Airtemp high-tonnage air-cooled models.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

ZONE \_\_\_\_\_ STATE \_\_\_\_\_



### 8 Win Trane \$500 College Engineering Scholarships

LA CROSSE, Wis.—Four city of La Crosse and four area senior high school young men are being awarded Trane Co. pre-engineering scholarships at La Crosse State college, Trane President D. C. Minard recently announced.

The eight \$500 scholarships are being awarded under a new Trane program instituted this year. The recipients are David Barrett, John Lenser, John Folts, and David Bagneski, all of La Crosse; Paul Deichelbohrer, Holmen; James Olson, Cashton; Clinton Solberg, Rockland; and Robert Spink, Sparta.

Purpose of the scholarship program is to interest senior boys to train as engineering technicians in an effort to help alleviate the critical shortage of graduate engineers, it was explained.

## 2 New Remote Condensers Jump Airtemp Commercial Air-Cooled Units to 30 Tons

DAYTON—With the development of two new remote air-cooled condensers, Airtemp Div. of Chrysler Corp., can now offer commercial air-cooled packaged air conditioners in sizes up to 30 tons capacity, Sydney Anderson, Jr., manager of air conditioning and heating sales for Airtemp, announced recently.

Air-cooled packages are now available in 10, 15, 20, 25, and 30-ton sizes, he said. Cabinets have the same appearance as present water-cooled versions. But, internally, the condenser shell serves only as a liquid receiver. The control panel has been modified for air-cooled use.

The two new air-cooled condensers are the models 7005 and 7005-1. Each has a capacity of approximately 5 tons and is

housed in a bonderized steel cabinet 36 $\frac{1}{2}$  in. wide, 42 $\frac{1}{2}$  in. long, and 25 in. high.

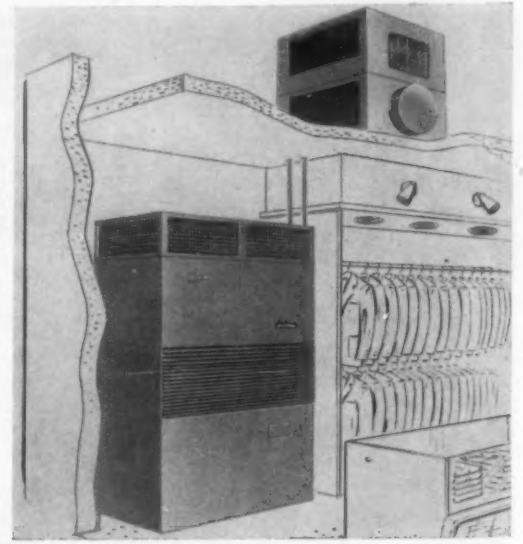
The condensers feature a new control system that will permit them to operate anywhere between 0° F. to 120° F. outside air temperature, Anderson said. Because of this control system, they require only a very small refrigerant charge.

The model 7005 is equipped with a centrifugal blower  $\frac{1}{2}$ -hp., 115/230-volt, single-phase blower motor, control box, terminal strip, pressure switch, thermostat, and damper.

For operation below 50° F. ambient outside air temperature, an auxiliary damper motor is available. It will permit operations at temperature to 0° F.

The 7005-1 has a propeller

THIS is a typical Airtemp 10-ton air-cooled commercial packaged air conditioning system using the packaged unit and a roof-located air-cooled condenser. For the first time Airtemp commercial packaged units are offered in sizes up to 30-ton capacity.



type fan driven by a  $\frac{1}{4}$ -hp., 230-volt, single-phase motor.

Two or more of these condensers are required to operate with standard 10 to 30-ton packaged units, Anderson declared.

The sequence of operation

would be as follows:

When the packaged unit starts and head pressure builds up to a predetermined point, pressure switch starts all condenser fan motors.

When ambient air temperature drops to 60° F., one of the 7005-1 fan motors will be cut off. In the case of a 15-ton job, the second 7005-1 fan will shut off when ambient drops to 50° F. This would leave only the 7005 condenser operating below 50° F.

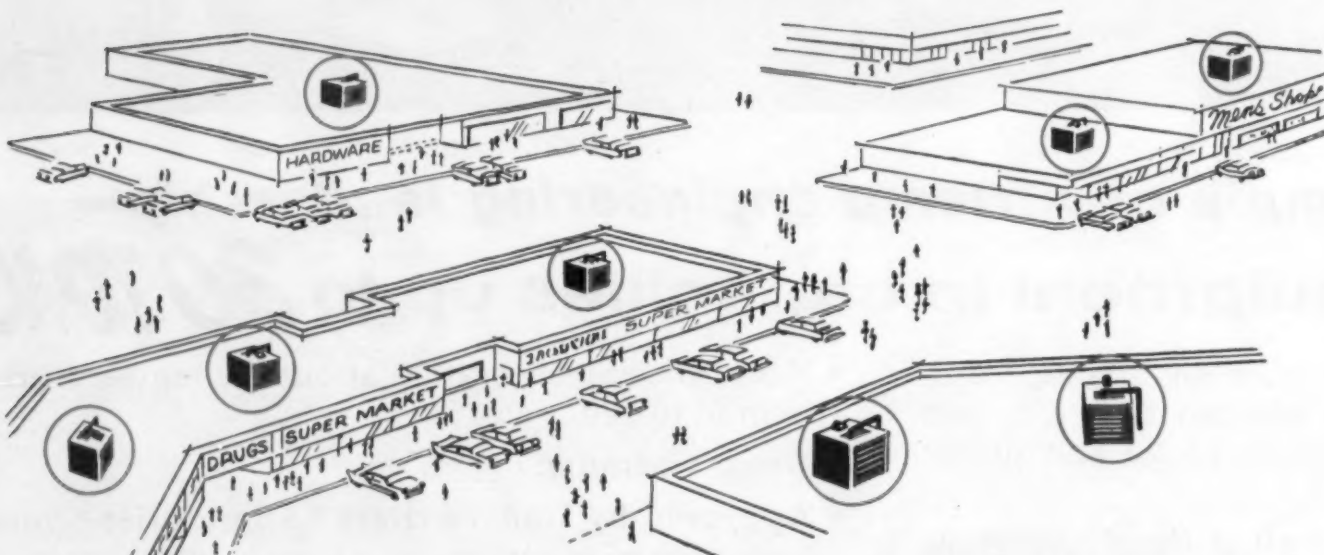
For operation below 50° F., installation of automatic damper motor is mandatory. Damper and motor will control air volume to hold a constant head pressure.

Simple control circuit eliminates the necessity of interconnecting wiring between the packaged unit and the condenser.

"We are now accepting orders for the new packaged unit-air-cooled condenser combinations," Anderson stated. "We expect to fill all such orders this season."

SO HALSTEAD & MITCHELL ENGINEERS SAID

# HERE ARE THE LOWEST COOLING TOWER MAINTENANCE COSTS IN CHAIN STORE HISTORY



Here's a story of cooling tower superiority which you can prove by asking the many chain store engineering departments specifying Halstead & Mitchell Cooling Towers. They'll tell you of unprecedented low costs for servicing . . . low costs resulting from built-in, long-life quality.

#### BEARING FAILURES ELIMINATED

The only moving part in a cooling tower, the fan, turns on completely sealed, life-lubricated bearings. Not a single case of bearing trouble has been reported in the last two years.

**exclusive 20-Year GUARANTEE** on wetted deck surface  
Only Halstead & Mitchell pressure-creosotes all the wood in its cooling towers. Thus, only H & M can offer the famous 20-Year Guarantee on the wetted deck against failure due to rotting or attack by fungus.

#### PROTECTED STEEL CABINETS

Halstead & Mitchell steel protection permits use of all commercial cleaning compounds. The "Protected-Steel" concept is offered by no other manufacturer. Vinsynite provides a tremendous bond; Vinyl Zinc a locked-tight barrier against water; Chlorinated Rubber a thick, flexible, tough surface protection. This, plus No-Rust Stainless Steel Fans and Shafts, provides the best cooling tower protection ever devised.

It's no accident that engineering experts in the chains specify Halstead & Mitchell Cooling Towers. Why not write for catalogs and prices today?



BESSEMER BUILDING • PITTSBURGH 22, PA.

2 thru 100 Tons—At Leading Refrigeration Wholesalers

## ASHAE Meeting--

(Concluded from Page 1)

Rochester, N. Y., as moderator.

There will be a topical session on sound and vibration Tuesday morning with H. A. Lockhart, Morton Grove, Ill., as chairman. This will be followed Wednesday morning by a symposium on sound and vibration with John Everetts, Jr., Philadelphia, as chairman and J. B. Graham, Buffalo, as moderator.

Meetings of 14 committees, including the Council of the Society with President Gordon presiding, will be held on June 22, 23, and 24.

Committees are Executive, First Vice President E. R. Queer, University Park, Pa., chairman; Regions Central, Second Vice President A. J. Hess, Los Angeles, chairman; Finance, Walter A. Grant, Syracuse, N. Y., chairman; Research Executive, H. A. Lockhart, Morton Grove, Ill., chairman; Program and Papers, John Everetts, Jr., Philadelphia, chairman; Building, A. J. Hess, Los Angeles, chairman.

Technical Advisory Committees include TAC on Insulation, M. W. Keyes, Pittsburgh, chairman; TAC on Plant and Animal Husbandry, A. J. Hess, Los Angeles, chairman; TAC on Air Cleaning, E. F. Snyder, Jr., Minneapolis, chairman; TAC on Evaporative Cooling, Leo Hungerford, Los Angeles, chairman; TAC on Sorption, G. L. Simpson, Pittsburgh, chairman; and the TAC on Air Distribution, W. O. Huebner, New York City, chairman.



## Distributor Seen Putting 'Life' Into Product

### NCRSA Advisor Lists 13 'Vital' Services

PHILADELPHIA — To correct the erroneous idea that the distributor is an unnecessary "middleman" between manufacturer and consumer, the National Commercial Refrigerator Sales Association, among others, is pushing the idea of "value added by distribution."

"We should never talk about the cost of distribution," asserts Tom Fernley, advisory secretary to NCRSA. "Distribution does not cost the consumer nor the manufacturer—it adds value through performance of specialized and creative services."

"Without distribution, manufactured products located in Oshkosh, Wis., would be of little interest to the prospective customer in Portland, Maine; Portland, Ore.; Los Angeles; or Miami, Fla."

#### PRODUCTS MADE AVAILABLE ALL OVER

"But through the distributive functions, these same products are made available to customers all over the country in quantities they require, at the time they need them, and with special services to produce utility commensurate with the product."

While the value added may vary from industry to industry, in ours, it puts "life" or utility into the product, he contends.

He listed the following 13 services that commercial refrigeration distributors provide that are vitally important both to the manufacturer and the user of his products.

#### SERVICES TO MFR. AND USER

1. Creation of a need or demand in the area for the equipment he sells.
2. Trained sales force that knows the manufacturer's products and can sell their features to the customer.
3. Store planning and engineering service to assist customer in selecting his requirements and in organizing his selling area for maximum sales.
4. Ordering, transporting, receiving, checking, warehousing, and delivering the equipment.
5. Coordinating all requirements of condensing units, electrical and plumbing needs, power supply, drains, etc.
6. Familiarity and compliance with requirements of local codes.

7. Arrangements for financing.
8. Lending the strength of his credit position to the purchaser.
9. Disposing of old cases and equipment.
10. Moving the new equipment into the store, connecting the cases, installing refrigerating machinery.
11. Adjustment of temperatures, cleaning cases, etc., and periodic inspection in warranty period to insure proper functioning of equipment.
12. Maintaining an inventory of parts and supplies and a service personnel to provide emergency repairs and maintenance of equipment.
13. Maintaining good will of the customer through service of all phases of the job.

## Three Foster Climate Test Rooms Help Develop Standard Refrigerators, Freezers

HUDSON, N. Y.—Foster Refrigerator Corp. recently built three new test rooms which can duplicate any climate from desert to pole, it was announced.

"This is an important factor in testing and perfecting new refrigerators and freezers," Foster said.

Refrigerators in Nevada will operate under different climatic

conditions than those here, the firm noted. Now Foster's engineers can duplicate any climate and test products in actual operation in that climate.

Through this testing process, the company has developed standard refrigerators and freezers, in models which were originally special "Desert Operation" units, it was added.

**GET TOP FREEZING EFFICIENCY  
REACH FOR ALCO AMMONIA CONTROLS**

Rugged, yet sensitive Alco Ammonia Controls put new life into sluggish refrigeration systems. Increase freezing efficiency—reduce operating and maintenance costs.

There's an Alco Control for every ammonia application, in all standard capacities:

|                  |                     |
|------------------|---------------------|
| Thermo Expansion | Automatic Expansion |
| Solenoids        | Float Switches      |
| EPRs             | Float Valves        |

INSTALL ALCO—THE SYSTEM SHOWS THE DIFFERENCE.

WRITE FOR ALCO'S FREE CATALOG No. 20



BUY QUALITY—BUY ALCO

**ALCO VALVE CO.**

853 KINGSLAND AVE. • ST. LOUIS 5, MO.

see your ALCO wholesaler

THE ONE COMPLETE LINE OF REFRIGERANT CONTROLS • Thermostatic Expansion Valves, Refrigerant Distributors, Solenoid Valves, Suction Line Regulators, Flooded Evaporator Controls and Reversing Valves.

7599

**CATALOG ON REQUEST**

Wholesalers of Refrigeration Supplies

G & E EQUIPMENT SUPPLY CO.  
8000 W. FULLER  
CHICAGO 20, ILL.

#### For Your Reprint Copy

"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

Only 25¢ each.



# CARRIER INTRODUCES NEW 10-hp AND 15-hp AIR-COOLED WEATHERMAKERS



**FOR OFFICES.** Air-cooled Carrier Weathermakers can be installed singly or in multiples. With a choice of four different sizes, you can easily meet the exact air conditioning requirements of any office.



**FOR STORES.** Flexibility is one of the outstanding features of air-cooled Weathermakers. You can install them with ductwork, or with a discharge plenum as shown in the drugstore installation above.



## Now you can air condition the big jobs without water with these new additions to the famous Carrier self-contained line

You know how water shortages, restrictions and costs have increased the demand for air-cooled equipment. To help meet this demand, Carrier has added new 10 and 15 hp units to its line of air-cooled Weathermakers\*. So Carrier dealers now have air-cooled equipment they need to land commercial and industrial jobs of any size.

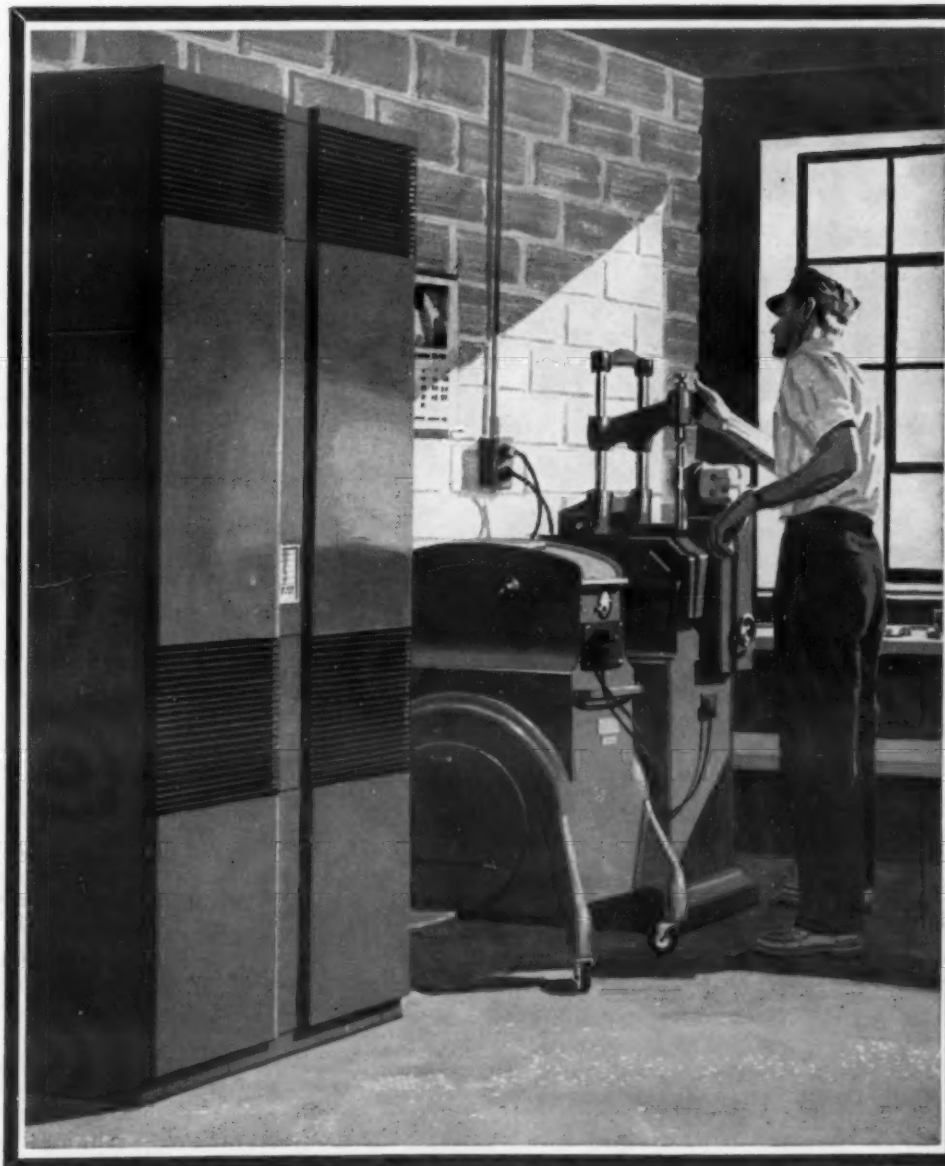
This full line—5, 7½, 10 and 15 hp—lets Carrier dealers provide the right size unit for every job. It also makes it easier for them to design waterless air conditioning systems for entire buildings since each zone can get the size unit it needs. The result: a system that is correctly balanced to do the most efficient job of air conditioning.

The Weathermaker's air-cooled condenser can be located outdoors on the roof, a parapet, or at ground level. Indoors it can be floor-mounted or hung from the ceiling in a storage area with short ducts leading to outside air.

From base pan up these units have been designed as high-capacity, air-cooled units to deliver their rated capacities even when summer temperatures are at their peak.

Here is further proof that Carrier dealers have the equipment for any air conditioning (or heating) job. And besides being supplied with the best in equipment they are also supplied with the best in training, and application engineering know-how.

Would you like to become a Carrier dealer? Call the Carrier distributor listed in your Classified Telephone Directory. Carrier Corporation, Syracuse, New York.



**FOR INDUSTRY.** Carrier's new, larger size air-cooled Weathermakers have ample capacity to handle higher heat loads of industrial plants. You can use one or several to do the job in each area.

### The full Carrier air-cooled Weathermaker line



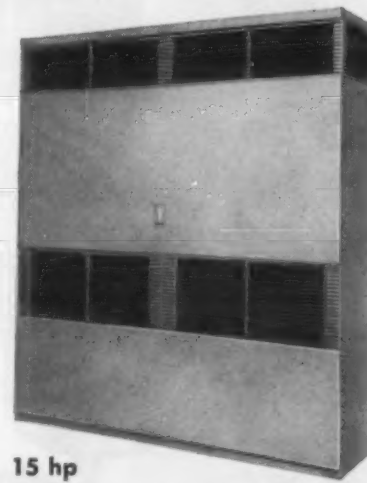
5 hp



7½ hp



10 hp



15 hp

**SPECIALLY DESIGNED.** All Carrier air-cooled Weathermakers were designed from the ground up as waterless air conditioners. They deliver their rated capacity even at peak summer temperatures.

\*Reg. U.S. Pat. Off.

For more information about products advertised on this page use Information Center, page 36.



Pre-Season Sales Up 25.5% over '56

## Hotpoint Forecasters See 2,000,000 Room Unit Sales In '57; Release Survey Data on Preferences, Trends, Buying Factors

CHICAGO—Hotpoint Co. announced that with pre-season air conditioner industry sales "running 25.5% ahead of 1956," the company's air conditioner market research forecasters estimate that the industry is "well on its way toward selling 2,000,000 units in 1957."

Indications that 1957 will be the biggest air conditioner sales year in history have prompted Hotpoint refrigeration officials to release new survey information regarding preferences, sales trends, buying factors, and other sales indicators in an effort to help dealers capitalize on the expected sales boom.

Newspaper advertising is the number one medium for attract-

ing consumer attention to possible purchases of air conditioners, according to Howard J. Scaife, marketing manager, Refrigeration Dept.

### Newspaper Ads Lead In Buying Influence

Scaife said the owner's survey showed 34.9% of the respondents listed newspaper advertising as the first factor which influenced them toward air conditioner purchases. "This follows the sales trend," Scaife said. "It is a fact that dealers who do volume advertising do volume sales."

Second most important factor influencing consumer purchases, reported by 30% of the respond-

ents, was "saw one in a friend's home." Social prestige and "keeping up with the Jones'" play an important part in influencing sales too, according to Scaife.

Other influencing factors reported were "hot weather," 12.8%; "saw it in a dealer's store window or on his floor," 10.2%; and "dealer called at home," 6.5%.

Features, compared to previous years, are reportedly playing a greater role in sales. Today's air conditioner has more features than they have ever had, according to Scaife.

"We estimated," Scaife said, "that in 1956 all air conditioner manufacturers spent in excess

of \$5,000,000 for new features on the 1957 models giving consumers additional benefits that heretofore were not obtainable. And because the air conditioner buyer is more critical than he has ever been, feature selling takes on added importance at the sales level."

Appearance, while only accounting for a 9% influence factor, will play a larger role in 1957, it was stated.

### Retailer No. 1 Salesman

The retail appliance dealer is still the number one air conditioner salesman, it was reported. According to the survey, 70.6% said they purchased their air conditioner at an electrical appliance store. Furniture stores accounted for 9.3%, utilities 3.8%, plumbing and heating 3.2%, department stores 2.5%, and miscellaneous 5.5%.

The survey "proved that the

1-hp. air conditioner has now been adopted as a 'standard' by the consumer and the industry," it was stated. "The 1/3-hp. unit is extinct and the 1/2-hp. is only prominent in casement type."

In developing sales trends, Scaife said that present and past sales figures showed that in 1953, the 3/4-hp. air conditioner accounted for about 60% of the industry's sales, while in 1957 it will account for about 38%. Similarly, in 1953 the 1-hp. unit accounted for 18% of the industry's sales while in 1957 it will account for 40% of the industry's sales. The same sales trend can be traced for the 2-hp. units and 1 1/2-hp. units, he said.

"Demand for the larger units of air conditioners can be seen in a historical review of sales," it was noted. "During the 1956 sales period, the industry ran out of 1 1/2 and 2-hp. units before the season was half over. This fact points up consumer recognition that it is more economical to purchase one larger air conditioner that will do an adequate cooling job rather than two or three small units."

As a further impact on sales trends, Hotpoint's market research experts forecast that the 1957 sales of 2-hp. units will be three times greater than in 1956.

Installation of air conditioners in homes accounted for 65% while business concerns took 20% of the business and apartment houses took 15% of the business.

A breakdown of the business concerns that installed air conditioners was as follows:

|                                 |       |
|---------------------------------|-------|
| Gen. business offices           | 20.4% |
| Retail stores and showrooms     | 11.5% |
| Doctor's offices, waiting rooms | 8.6%  |
| Professional service offices    | 6.6%  |
| Barber shops - Beauty salons    | 5.8%  |
| Motels                          | 5.8%  |
| Construction - contracting      | 2.0%  |
| Telephone offices               | 1.7%  |
| Hotels                          | 1.9%  |
| Hospitals                       | .6%   |
| Schools                         | 2.0%  |
| Indeterminable types            | 32.4% |

"Business properties such as retail stores, law offices, doctor offices, dentist offices, drug-stores, hardware stores, restaurants, taverns, motels, hotels, and hundreds of other establishments that deal with the public are all candidates for air conditioners," Scaife said. "Here's a market that cannot be reached with any other major appliance and has a market potential of \$50,000,000," he added.

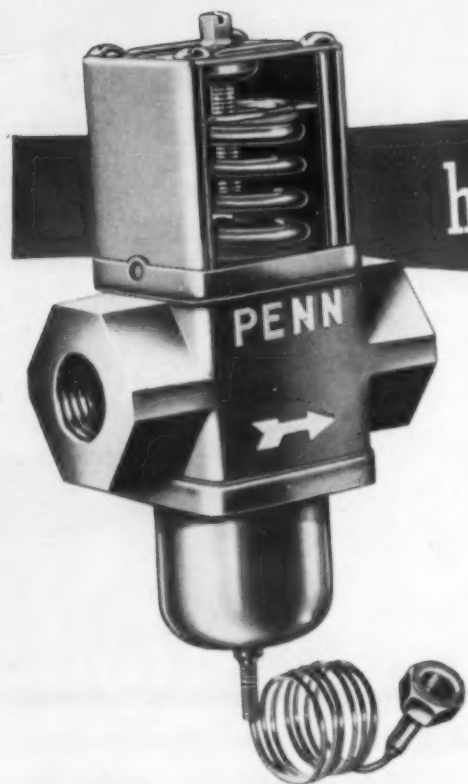
Location of the room air conditioner has changed little from the last survey; 75% of the installations were in bedrooms and living rooms; dining rooms accounted for 13%, kitchens and recreation rooms about 9%; others about 1%.

Fifty-five per cent of the air conditioner owners valued their homes between \$10,000-\$25,000 bracket, up 7% from a year ago, "which points to the fact that this price range of houses represents a prime market for air conditioner sales."

Lastly, the owners revealed the ages of their homes and the results indicated that age of the home makes little difference as shown below:

|                |       |
|----------------|-------|
| Over 20 years  | 31%   |
| 11 to 20 years | 17.1% |
| 6 to 10 years  | 19.7% |
| 3 to 5 years   | 18.7% |
| New house      | 13.5% |

# MORE MANUFACTURERS AND INSTALLERS BUY PENN THAN ANY OTHER WATER VALVE



here are the reasons why...

- No valve chatter
- No rusting of range spring
- No water hammer
- No corrosion of sliding parts
- Easy manual flushing
- Highly sensitive yet accurate

Add up these reasons and you'll get one answer... Penn water valves stay on the job longer! And, it's an answer proven correct in hundreds of thousands

of installations. Don't settle for something "almost as good"... specify and install Penn water valves. Ask your wholesaler or write to Penn Controls, Inc.

**PENN CONTROLS, INC.** Goshen, Indiana

EXPORT DIVISION: 27 E. 38th ST., NEW YORK, N. Y.

AUTOMATIC CONTROLS FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES





# **FRIGIDAIRE**

## ***breaks the "Sales Barrier"***

### ***in Air Conditioning!***

The biggest problem in home air conditioning sales is the scarcity of men trained to make those sales. Getting over that obstacle has required an extensive market analysis, a deep understanding of the sales atmosphere and a *big step* forward. Frigidaire has taken it.

In support of all of its air conditioning lines — room conditioners, full-home air conditioning including heating, and commercial air conditioning — Frigidaire has developed the most simple, and yet the most effective selling aids ever offered the American dealer.

The Frigidaire Room Conditioner FACT CENTER has been created to make even a "green" salesman an effective salesman at the point of sale.

The Frigidaire FACT-O-GRAPH has wrung all the technical language out of full-home air conditioning selling — simplified the sales story as it has never been simplified before. And the simple Slide Rule Selector makes it possible to accurately estimate the cost of a full-home installation in less than an hour!

These tools are hard at work right now — just as are many other Frigidaire advertising, sales and promotion tools. But even today these tools, unique as they are, are being sharpened for the future because Frigidaire knows that air conditioning sales will always go to the dealer whose salesmen sell best. Helping them sell best is a challenge that Frigidaire has accepted. Just another important reason to join forces with Frigidaire for the truly immense opportunities now—and in the years ahead.

## ***FRIGIDAIRE is on the march***



Frigidaire—Built and Backed by General Motors



# Systems for Air Conditioning Existing Buildings Should Be Equal to New, Leopold Tells Symposium

WASHINGTON, D. C.—Air conditioning installed in a good existing structure "should be equal in quality, performance, maintenance, and insofar as possible, appearance to the system which would have been installed when the building was originally constructed, assuming that present-day knowledge, methods, and equipment for air conditioning were then available," believes Charles S. Leopold, well known consulting engineer of Philadelphia.

Leopold outlined the objectives of such installations and cited some examples in a talk before the recent government-industry symposium here sponsored by the U. S. Department of Commerce in cooperation with industry groups.

## Lists 9 Objectives

He lists nine objectives for air conditioning of "government buildings of substantial construction":

"1. To maintain optimum temperature and humidity for general working spaces for multiple occupancy. Precise data are available on the optimum temperature for a group.

"Interior zoning need only be carried to the point of maintaining the group optimum. Interior conference rooms and electronic equipment areas require special treatment.

"2. To maintain desirable temperature and humidity for offices of single occupancy which are usually adjacent to the perimeter of the building.

"The statistical data on optimum temperature for a group, in common with most other statistical data, fail to describe the optimum condition for any one individual in that group," Leopold cautioned.

## Perimeter Office Necessities

"Perimeter offices are subjected to the effects of sun and outdoor weather whereas the interior of the building presents a relatively simple cooling problem throughout the year. The private offices are usually occupied by senior members of the staff and if they desire a higher or lower temperature than the statistical optimum it seems reasonable that they should be able to obtain it.

"Perimeter offices in this climate should be provided with:

"(a) A means of heating beneath the windows sufficient to counteract the slide of cold air down the window and, to a degree, compensate for radiation from the body to a cold surface.

"(b) Individual control of temperature over a reasonable range.

"As a minimum, office floors intended initially for multiple occupancy should be provided with a means for readily changing to individual control of perimeter offices, should a change in the use of the building require the construction of private offices," he suggested.

"The perimeter system should be capable of maintaining the desired conditions throughout the year and at all times meet the problem of sun exposure and cast shadows, whether by

wings of the building or by other buildings.

"3. To provide adequate ventilation and air circulation without draft, the unpardonable sin of air conditioning.

"Usually the control of odor will require more outdoor air than will the physiological needs. In this connection it is also desirable to keep the relative humidity below approximately 55% as aiding in the suppression of the generation of odors within a building.

"4. All systems should have adequate filtration for relatively coarse dust; namely, dust of the size where the individual particles can be seen. In industrial atmospheres, or where there is appreciable soot or oil

fumes, additional filtration as by electrostatic filtration, or filters operating substantially on the diffusion principle, may be justified.

"5. The system should be capable of maintenance by personnel of average intelligence and the automatic controls should be selected with this thought in mind.

## Ready Access for Maintenance

"There should be ready access to all parts of the apparatus for maintenance. This does not necessarily mean a large apparatus room but that access should be carefully considered during the planning stage. Where possible, it is desirable

that maintenance be confined to a few large areas, rather than a multiplicity of small areas," Leopold said.

"6. The capacity of all components of a system should be adequate for the maximum duty for which the system is designed. It is not realistic to assume that the heat transfer apparatus will always be bright metal clean. On the other hand, gross over-sizing is equally to be avoided as being wasteful and, at times, adding to the complications of control of the system.

"7. The apparatus and air distribution systems should operate free from objectionable noise and vibration.

"8. The system should be in-

stalled so as to have a minimum adverse effect on the appearance of the building.

"9. The system should occupy as little of otherwise useful space as is feasible.

"Buildings in general, office buildings in particular, are conditioned so that the occupants may work without the discomforts due to temperature, humidity, noise, and dirt. Conditioning such a space provides more pleasant living and, as such, is one of many considerations in the employer-employee relationship. This phase may be the major consideration, particularly for our government which must compete with the more flexible wage scales of private industry," Leopold declared.

"In an office building with adequate windows, in the absence of air conditioning, employees tend to blame nature for their discomforts, but the

(Continued on next page)



**Jenni Genetron says:**





## Cooling Present U. S. Buildings --

(Continued from preceding page)

"Assuming a 30-year amortization and interest at 3.5% on the unamortized balance, the annual fixed charge would be approximately 5.2% or \$12 a year per employee. Should salaries average \$4,000 for the period of amortization, \$12 would represent 0.3% of salary."

### Conditioning 'Important' In Labor Market

"Regardless of whether or not improved efficiency because of good air conditioning can be demonstrated for all office work, air conditioning is a definite factor in the employer-employee relation and important in the competitive market for labor," he said.

To illustrate some of his design objectives, Leopold referred to the 30-story Fidelity-Philadelphia Bldg., completed in 1928, which has a rentable area

of over 600,000 sq. ft. and is considered by many to be the No. 1 office building in Philadelphia.

"In studying the problem of air conditioning in 1953, preliminary plans and first and operating costs were prepared for a number of methods," he said.

"The cost estimates included an annual charge for the loss of rentable area for any space to be occupied by the air conditioning system. The cost analysis indicated that the systems which required the minimum of rentable area, though somewhat higher in first cost, were the desirable systems in over-all cost."

"The sixth floor and below is occupied by the bank and is generally served from an apparatus room constructed on the rear court roof. The office areas above the sixth floor are served by two fan rooms built on the roof. Three compressors, totaling 2,500 tons capacity, are located in the basement adjacent to the boiler room. Excavation was required below the base of the columns but above the base of the footings."

"There were two spare elevators. The shafts were used to aid in the vertical distribution of air."

"All perimeter space is served by high pressure induced air units located under the windows in lieu of radiators, each office under its own automatic control," Leopold explained.

"The interior areas of the building above the sixth floor are served by two interior zone fan systems supplying the same temperature air to all floors."

"The loss of rentable space due to air conditioning installation was 0.25% of the total rentable area, and that in such small parcels that it did not interfere with existing office layouts. Even this figure is somewhat misleading as some windowless space was recovered

which prior to the use of air conditioning could be used only for storage."

"In this building the finished appearance of the perimeter offices was much as it would be if the building were constructed today. The interior is quite similar with the exception that where sound absorbent ceilings have been added they would initially have concealed the ducts whereas, as of now, some interior ducts are exposed. This is not a permanent limitation as enclosure can always be effected if desired," he said.

### Cooling Capitol Presented Problems

Turning to government buildings, Leopold declared that "air conditioning the U. S. Capitol presented some unusual problems. Construction extended from the latter part of the 1700's to the early part of this century. The Capitol was completely air conditioned in 1936."

"The House and Senate chambers had been conditioned in 1929. A substantially new system for the House and Senate chambers was installed in 1950, incident to the complete renovation of the chambers," he explained.

"Appreciable interference with the appearance of this building was unthinkable. The House and Senate wings, constructed in the 1850's, were provided with a heating system with an individual flue for each room terminating at each of three floors, heated by a bank of heaters in the cellar. Air was moved from the outdoors by large fans and distributed beneath the cellar in underground tunnels."

### Flues Adequate for Air Conditioning

"It was found that the flues were adequate in size for air conditioning. The registers in each case were located near the floor whereas it was desirable that they be located well above head level."

"In order to avoid large vertical cuts in the brick interior walls of each room, it was decided to use the flue which previously supplied the principal floor to supply near the ceiling of the basement floor and similarly to use the flue for the gallery floor to supply the principal floor," Leopold said.

"This left the attic floor without a supply but the availability of attic space above made it feasible to bring one large duct up an interior court and distribute air horizontally above the attic floor ceiling. Each room supply was provided with its individual hot water booster heater, located in the cellar for two floors and in the attic for the third floor."

"The flue which originally supplied the basement floor in some cases was used for returns."

"The underground air tunnels were circular in section and somewhat small for the amount of air to be handled. It was not considered advisable to line these tunnels to prevent temperature rise of the air."

"To study this problem, temperature recorders were installed in the tunnel and fan operation discontinued for several weeks. The recorders in-

(Concluded on next page)

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| <b>genetron 113</b>  | PURPLE LABEL | TRICHLOROTRIFLUOROETHANE  |
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## Cooling Existing U. S. Buildings--

(Concluded from preceding page)

"To maintain a proper humidity requires air of approximately 54° leaving the dehumidifier. The ordinary method of delivering 62° air would be to introduce a portion of the return air between the fan and the dehumidifier, the so-called 'by-pass.'"

"The use of the by-pass system with moisture from open windows or returns near frequently open doorways would tend to introduce moisture into the system and it was, therefore, decided to use a different method of providing the temperature rise from the dehumidified air temperature of 54° to the desirable distribution temperature of 62°."

"This was accomplished by the so-called 'run-around system' in which finned copper coils are placed one before and

one after the dehumidifier, connected with their own local water circuit. The coil preceding the dehumidifier supplies the necessary heat to the coil following the dehumidifier and, conversely, the cooler water from the following coil helps to cool the incoming air."

"With this method there is no waste of refrigerating effect due to reheat," Leopold said.

"All of the supply air delivered to any one room was definitely controlled as to moisture content and it was possible with a given chilled water temperature and coil to maintain a somewhat lower dewpoint than would have been possible with a conventional system."

"Air for the conditioning of the rotunda is introduced by nozzles pointing through the balustrade of the gallery for approximately one-quarter of its circumference. The design air quantity substantially discount-

ed heat loss through the structure above the gallery level," Leopold noted.

"The design of the Capitol system complies in most respects with the design criteria previously stated. It departs in two respects:

"1. Existing radiators were continued in use. New radiators were not added. It was believed that with the massive construction of the Capitol, the relatively small window area, and the actual furniture placing in most rooms, this compromise was justified in view of the great difficulty and cost of installing a concealed radiator system."

"2. Air filtration was not so good as would be installed today, in part because filters for smoke removal were not then available."

"Some filtration has been added in the intervening years," he said.

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## Airtemp Marketing Team To Meet on Gulf In Nov.

DAYTON — Overlooking the Gulf of Mexico, located equidistant between Gulfport and Biloxi, Miss., the Edgewater Gulf hotel will be the site of a three-day national business conference, Nov. 11-13, for the marketing team of the Airtemp Div. of Chrysler Corp.

Including Airtemp cooling, heating, and room air conditioner distributor officials, company executives, regional sales and engineering representatives, more than 400 people will participate in the fall parley.

"The conference, first of its type held by the company, will be mutually beneficial to all segments of our national organization," commented J. F. Knoff, Airtemp vice president in charge of sales.

"It will permit us to unfold the company's complete 1958 program to distributors and field personnel simultaneously, thus saving many hours of time for both groups. The national meeting, we believe, will also enable us to present next year's program in a highly effective, stimulating manner."

Agenda for the conference calls for formal business sessions, a professionally staged product presentation program, luncheon talks by nationally known guest speakers, a duo of unique Southland social fetes, a distributor-award banquet, plus special entertainment activities and tours for the wives who attend.

Time will also be allocated for business and franchise discussions with individual distributors.

## Zumbrun, Sr., Mumford To Head Brunner Div. Of Dunham-Bush, Inc.

WEST HARTFORD, Conn.—Dunham-Bush, Inc. has announced the election of A. G. Zumbrun, Sr. as vice president and director, G. C. Mumford as assistant treasurer, and S. W. Mozley as a member of the board of directors.

Zumbrun and Mumford will serve as the top management group of the Brunner Div., Utica, N. Y., recently acquired by Dunham-Bush as a wholly owned subsidiary.

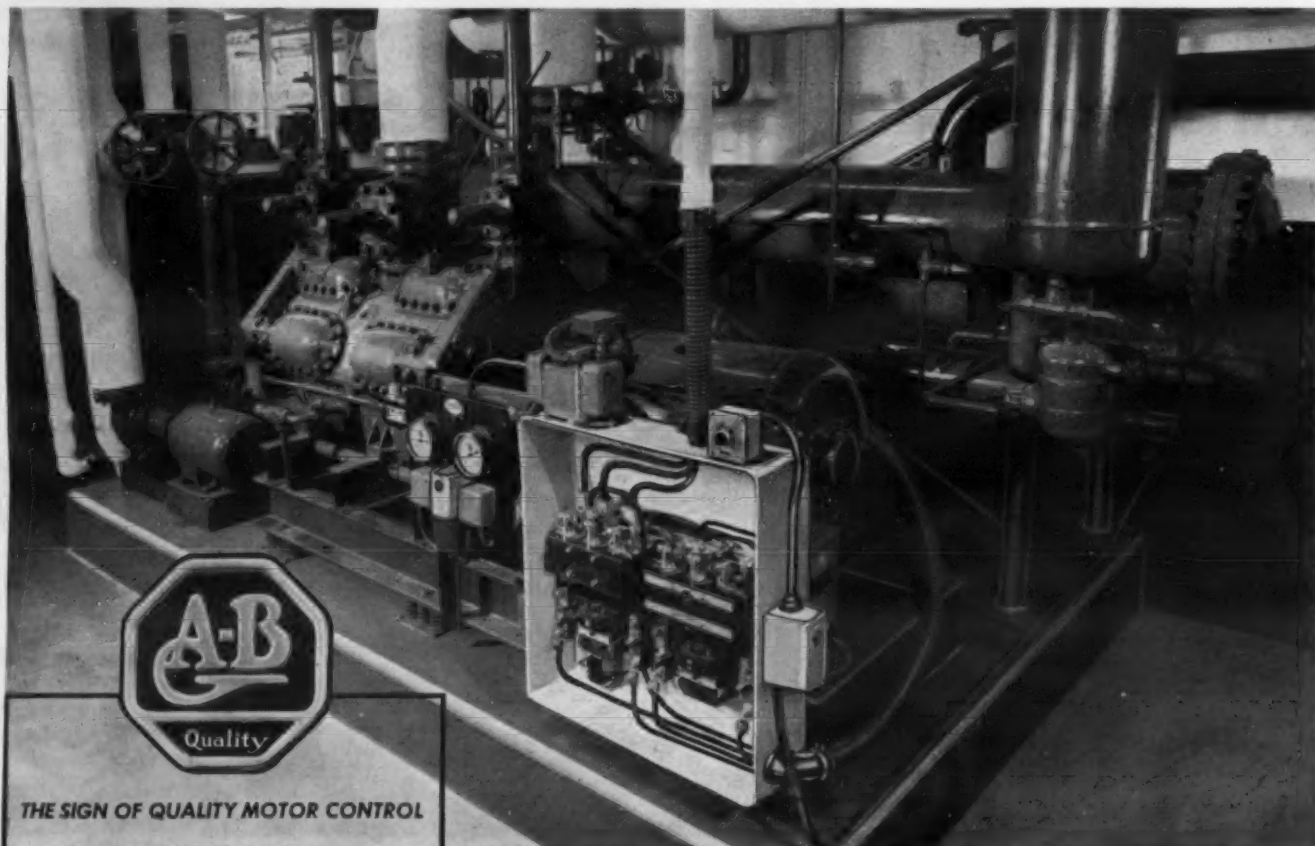
Zumbrun has been with Brunner since 1925. During his career there, he has served as office manager, credit manager, and chief accountant. In 1932 he was made treasurer of the company. Elected vice president and general manager in 1946, he became president in 1950.

Mumford joined Brunner in 1953. He became secretary-treasurer of Brunner in 1954, and was elected to the board of directors in January, 1957.

Mozley, with Fusz-Schmelzle & Co., Inc., St. Louis, for the past five years, is vice president and director of that company. Previously, he had been a director of Brunner Mfg. Co.

## Open Mathes Outlet

BOSSIER CITY, La.—Harper-Mathes Co., featuring a complete line of Mathes room air conditioners and commercial units, has held grand opening at 1600-C Barksdale Blvd.



Bulletin 736 part-winding starter on large York compressor

## GRIPES about lamp flicker cured with these A-B reduced voltage starters

High starting current inrush—the cause of "lamp flicker"—can be brought down to the power company's limitations with one of the Allen-Bradley starters shown on this page.

Bulletin 640 manual velvet smooth compression resistance starters provide stepless acceleration of the motor from standstill to full speed without lamp flicker.

Bulletin 740 automatic 2-step compression resistance starter . . . the automatic equivalent of Bulletin 640 manual starter.

Bulletin 742, the ideal automatic starter for increasing starting current steplessly, thus eliminating "lamp flicker" on network systems.

Bulletin 646 is a manually operated autotransformer type starter with either 2 or 3 reduced voltage taps.

Bulletin 746 automatic equivalent of Bulletin 646 manual starter. Rated up to 300 hp, 220 v; 600 hp, 440-550 v.

Bulletin 736 part-winding starter, shown above, can be used with squirrel cage motors having two separate parallel stator windings. Where starting current comes within power company's limitation, the result is a satisfactory, low cost installation.

When you have difficulty in deciding which starter to use, an Allen-Bradley sales engineer will gladly help you with your problem. Please call our nearest office.

Allen-Bradley Co.

1313 S. First St., Milwaukee 4, Wis.

In Canada—Allen-Bradley Canada Ltd., Galt, Ont.








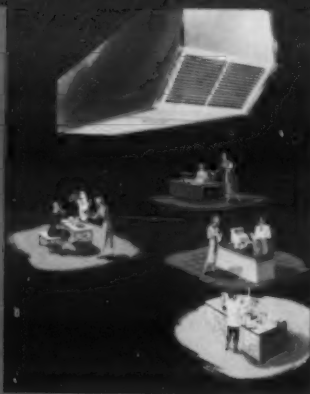
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*new* **JANITROL** AIR COOLED  
packaged air conditioner



Flexible and compact—  
fastens to ceiling  or  
stands upright on floor...   
adaptable for duct system. 





Versatile new

**JANITROL**

packaged waterless  
cooling conditioner

**Makes installation easy, even in those  
"problem" locations—brings new efficiency  
and beauty into the picture, too!**



Nothing in air conditioning matches the versatility and performance of this brilliant new Janitrol "packaged" air cooled cooling conditioner.

It adapts itself to most every installation situation you'll ever face in commercial and light-industrial applications . . . because it can be fastened to the

ceiling or positioned vertically on the floor, and is readily adaptable for use with a duct system. Either way, big savings in space result. Waterless operation eliminates time-consuming plumbing, allows operation in areas of water scarcity. And it's as easy on the ears as it is on the eyes, because all moving parts except the blower are contained in the remote, air-cooled compressor unit. Thus operating noises are isolated from the conditioned area.

Now, even more than before, you can count on Janitrol for the right "packaged" conditioner at the right price . . . air-cooled and water-cooled models . . . combination heating-cooling conditioners for year round application. All backed by Janitrol's reputation for quality, dependability and expert technical assistance. Ask your Janitrol representative for full details.



**REMOTE COMPRESSOR-CONDENSER UNITS FURNISHED WITH  
NEW JANITROL AIR-COOLED PACKAGED CONDITIONER  
CAPACITIES\***



SRA-7 22,000 btu.  
SRA-9 35,000 btu.  
A-401 & 403 47,500 btu.  
SRA-11 58,500 btu.



A-603 76,000 btu.

\*95° F. Dry Bulb air entering condenser, 80° F. Dry Bulb, 67° F. Wet Bulb air entering evaporator, approximately 400 CFM per 12,000 btu.

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**Janitrol SAC and SACF  
water-cooled conditioners**



Model SAC—has built-in filters and blower, connects to present duct system.



Model SACF—packaged, console-type unit operates without duct connections.

Compact, smartly styled, easily adapted to existing space. Optional 2-stage operation with SAC-60 5 h.p. models. Two separate compressors are provided—a 2 h.p. and a 3 h.p. In mild weather, the 3 h.p. stage controls humidity without overcooling. The 2 h.p. stage turns on automatically when rising temperatures demand full cooling power. Controlled sequence starting. Capacities\* 26,800, 36,900 and 63,700 btu.

**JANITROL WIN-SUM-MATIC  
YEAR 'ROUND CONDITIONER**

Combines thrifty gas heating, waterless cooling in little as 4½ sq. ft. of floor space. Unique bypass eliminates heat exchanger resistance on cooling cycle, gives correct air flow for heating and cooling without seasonal adjustments. Air cooled Pride O' Yard unit is low, sleek, efficient . . . shames ordinary "doghouse" models. ADD-ON cooling option—install for heating only, add cooling later. Upflow and downflow models, 100,000 and 140,000 btu./hr. heating, 22,000 to 58,500 btu./hr. cooling capacities\*.



**JANITROL SRA ADD-ON COOLING**

Adapts most any warm air furnace for thrifty, efficient central cooling. Cooling coil mounts in duct, beautiful air cooled Pride O' Yard unit goes outside. Powerful, quiet performance with outside temperatures to 125° F. Easy to install, moderately priced. Waterless operation eliminates plumbing, sewage, water supply problems. 22,000, 35,000 and 58,500 btu./hr. Capacities\*.



**JANITROL GAS-FIRED DUCT FURNACES**



Designed for installation in a duct where the air is circulated by a remote fan. Especially adaptable for industrial heating applications in combination with cooling. Low in cost, save installation time and labor. Unit sizes from 85,000 to 300,000 btu./hr. New 200,000 and 300,000 btu./hr. units may be combined to provide unlimited capacity range.

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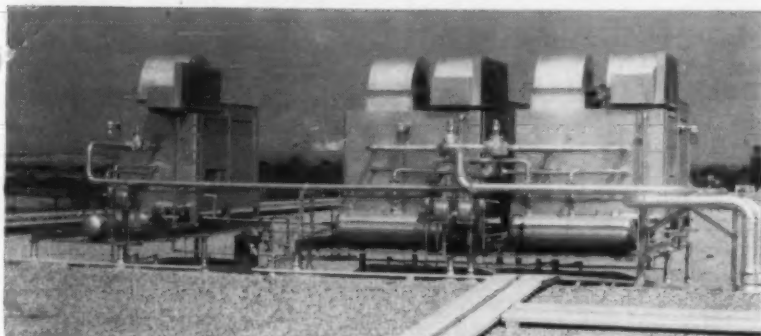
COLUMBUS 16, OHIO

In Canada: Moffat Heating & Air Conditioning Division  
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Also Makers of Surface Industrial Furnaces, Kathabar Humidity Conditioning, Janitrol Residential Heating and Cooling Equipment.



## Mechanical Core Air Conditioning Packages Combined with Repetitive Ductwork Cut Plant's Climate Control Cost



ROOF-MOUNTED over mechanical cores, these Drayer-Hanson evaporative condensers are located at the new Autonetics building, division of North American Aviation Co., Inc., Downey, Calif.

By J. S. Hamel,  
Consulting Engineer

DOWNEY, Calif.—Use of repetitive ductwork and mechanical cores have brought the cost of summer and winter climate control down to \$1.75 per sq. ft. at the new Autonetics headquarters building here.

Autonetics is the newest division of North American Aviation. The new headquarters will be used for the design, development, and manufacture of radar components, servo-mechanisms, and automatic control devices.

Costing \$2,760,000 to build, the two-story building contains approximately 146,000 sq. ft. per floor. It is of lift-slab, tilt-up construction.

The air conditioning system completely covers the second floor and about one third of the ground floor. Provision for air conditioning of the remainder at a later date is provided for.

### OPERATED ON DIRECT EXPANSION REFRIGERATION

A feature of the design is that the entire air conditioning system is operated on direct-expansion refrigeration with four king-size, built-up air conditioning units.

These air conditioning packages are mechanical cores in the building extending from the ground floor to the roof.

Each of these units has an ultimate capacity of 300 tons with approximately 200 tons installed in the first stage. Provision is made for additional 100-ton condensing units to be added at a future date.

The heating cycle is provided from a central boiler plant, with 180° F. circulating hot water. Hot water is supplied to each of the air conditioners. Additional hot water is supplied to various zones where reheating is required in outside areas having severe exposures.

### ECONOMY OF DUCT INSTALLATION

Prime feature of this job was the economy of duct installation. The entire duct distribution system in the main portion of the building requires a 14-in. space or the underside of the lift slab.

Because this building was structurally designed without any girders or projecting beams, a substantial saving in building height was realized by combining the structural features, the duct distribution system, and the illumination system.

More than 80% of the ductwork was designed to be of a repetitive, uniform size which resulted in economies both in installation and fabrication of the duct system.

Most of the area has an exposed ceiling without furring. Ceiling outlets, each handling approximately 1,500 c.f.m., were spaced on approximately 30-in. centers.

Twelve-inch-wide plaques extending horizontally on each of the four sides of the square diffusers provide a draft-free, uniform distribution of air in the conditioned space.

Ducts, sprinkler piping, and lighting occupy a maximum depth of 20 in. below the floor slab. This is considered to be unique in a building of this

magnitude and provides a uniform, uncluttered effect for an exposed ceiling.

Design conditions were: winter: outside 35° F. dry bulb, inside 75° F. dry bulb, 15 m.p.h. wind velocity. Summer: outside 95° F. dry bulb, 72° wet bulb, inside 80° dry bulb, 50% relative humidity.

Equipment utilized in the total air conditioning, heating, and ventilating phase includes four York 150-hp. refrigeration compressors and two 40-hp. units. Space provision has been made for addition of four 100-hp. units later on.

Roof-mounted above each mechanical core is bank of dual Drayer-Hanson evaporative condensers. Each of the eight

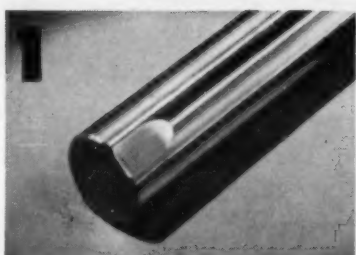
"Perma-Fan" model 412 units is 150-ton capacity. Space for additional condenser units is provided.

Boilers are Kewanee; fans, American Blower; and coils are Air-Fin. Minneapolis-Honeywell controls are utilized throughout the project.

Pre-planning of the project by design and planning engineers resulted in decision to bypass use of conventional chilled water system from central-plant distribution in favor of on-the-spot installation of four king-size built-up air conditioning units.

These proved to accomplish every customer requirement and bring final building costs well within initial budget.

## QUALITY YOU CAN DEPEND ON WHERE QUALITY COUNTS MOST



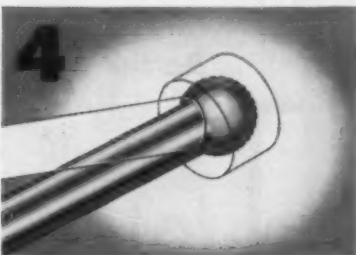
**1** SIZED, GROUND, and POLISHED SHAFTING assures dynamic balance, true bearing fit. Ask your Brundage representative to show you samples.



**2** BEARINGS BY RANDALL . . . the same quality bearings that are standard on America's finest equipment are part of every Brundage Blower.



**3** LUBRICATION BY GULF . . . famous Plastic "E" assures instant lubrication. It lasts for years and the big reservoir is re-fillable.



**4** EXCLUSIVE SELF-ALIGNING BALL & SOCKET. Lubricated retaining cushion relieves all lateral stress . . . makes Brundage the only really self-aligning unit in its field.

### The focus is on service-free performance that builds your product reputation

Your blower becomes part of your product in your customer's mind. How well — and how long — it performs is of critical importance to your product reputation.

That's why Brundage builds unsurpassed quality into every blower, using the finest materials and workmanship where they count the most.

Creating this quality starts with the best available components at the blower's heart—the shaft-bearing area. Here, Brundage finish and assembly are unique in the blower industry. The result is quiet, durable operation, designed to last the full life of your equipment.

And, best of all, Brundage quality costs no more. Measure the advantage in your own lab.

## BRUNDAGE BLOWERS

THE BRUNDAGE COMPANY / 508 NO. PARK ST. / KALAMAZOO, MICHIGAN



# Is 'Comfort Engineering' Key To Real Boom In Residential Conditioning?

## Could Slash First & Operating Costs, Shift Sales Pattern, Consultant Says

CLEVELAND—"Comfort engineering may be the long-missing key that opens the door to the potentially tremendous market for central air conditioning systems for the average home," Tyler S. Rogers, technical consultant to Owens-Corning Fiberglas Corp., told the second technical conference of the National Warm Air Heating & Air Conditioning Association held here recently.

### What It Can Do

"Comfort engineering" can also, he said:

"Build bigger and better markets for residential heating and air conditioning equipment;

"Help equipment manufactur-

ers sell more units, cut their production and selling costs, increase their profits;

"Switch the business of the unwary manufacturer or contractor. It can shift the emphasis of many producers, make some products obsolete, give others a big boost."

Rogers pointed out that "for years and years this industry has accepted any heating or cooling task with little concern for operating costs or building economics.

"It has been willing to put heat into, or remove it from, buildings that leaked heat as a sieve leaks water," he declared.

"Only the building insulation segment of the industry has

been seriously concerned, although this association has quite strongly advocated good insulation practices in its Manuals 3 and 11."

Referring to the Owens-Corning "Low Cost National Test Program," Rogers explained that "through the co-operation of public utility companies and over 150 builders in 50 cities in all climate areas of the U. S. we now have about 165 houses in our program which are sub-metered and undergoing a two-study of actual operating costs.

### What 'Comfort Engineered' Means

"The drawings of these houses were first checked by our engineers to be sure they represent good design practices. In short," said Rogers, "they were 'comfort engineered.'"

This is the first instalment of a two-part discussion of 'Comfort Engineering' by Tyler S. Rogers, technical consultant to Owens-Corning Fiberglas Corp. The last six of his 10 reasons why equipment manufacturers would benefit from adoption of comfort engineering standards will appear in the second instalment.

"'Comfort engineered' means three things," he explained: "First, we insisted upon the maximum practical use of insulation. Second, we required that sunny windows be properly shaded by exterior devices such as overhangs and sun screens or heat-absorbing glass. Third, we required good ventilation of roof or attic spaces to further reduce the costly impact of sun heat on cooling loads.

"Of course, we also required that heating and air conditioning units installed in these houses be sized in proper relationship to the summer and winter loads as reduced by these improvements."

As a "firm base" to compare results, the houses had to conform to the Minimum Property Requirements of FHA, Rogers said, and all test houses were related to a standard house of 1,200 sq. ft. with fuel costing 10 cents per effective therm and power at 2 cents per kw-hr. Disclosing "some things we found to date," Rogers cited the following:

"When heating alone is involved, comfort engineering standards increased the builder's initial cost of insulation over FHA minimum by \$96, but thereafter saved the owner \$27 a year, which repaid the investment in 3.5 years."

(These figures are national averages. In the North, winter comfort engineering cost \$86, saved \$34 in fuel annually, was paid for it 2.5 years; in Central states it cost \$107, saved \$31 a year, paid for itself in 3.4 years; in the South it cost \$91, saved \$14 a year, paid for itself in 6.5 years.)

### Adds \$23 to FHA Minimum Costs

"Where year-round air conditioning is involved, comfort engineering adds only \$23 to FHA minimum costs but annually saves \$54 in owner's operating costs," Rogers declared.

"Thus the extra cost is repaid in five months. This lower cost is due to bigger savings on cooling units than on heating alone."

(In the North, comfort engineering added \$44 to the cost, saved \$45 annually in fuel and power costs, paid for itself in 11.5 months; in Central states it cost an added \$45, saved \$51 annually, was paid for in 10.7 months; in the South comfort engineering actually reduced first cost \$33, gave annual savings of \$68 as well.)

In the South, Rogers emphasized, the builder "cannot afford not to use maximum insulation when he added air conditioning."

### How First Costs Were Determined

It was explained that the foregoing figures on first cost were determined by combining the extra costs resulting from maximum insulation, window shading, and extra attic ventilation and then subtracting from this figure the savings resulting from installation of smaller heating and cooling units which could handle the reduced loads permitted by "comfort engineering."

"As you well know," Rogers went on, "operating costs are related to heat gain or loss. Thus, when we reduce heat transfer we reduce power and fuel requirements for the life of the building. These savings are very generous. They pay better dividends than any securities you can buy," he asserted.

"Possibly some of you who manufacture heating and cool-

(Continued on next page)

when you make one sale . . .

# Coleman Cooling

sells the man next door



## Air-Cooled

### CONDENSING UNITS

- New economy line for volume selling
- Waterless—low cost to install

Here's the biggest value in remote waterless air conditioning on the market. Oversized condenser gives greater cooling capacity on hottest day. So compact it takes less than half the space of comparable units. Easily concealed with landscaping. 2, 3 and 5 tons.

### EXCLUSIVE

## Air-Mist

### CONDENSING UNITS

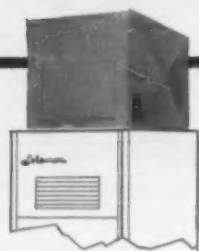
- Proved highest efficiency
- Lowest operating cost

The finest condenser money can buy. Gives more cooling power than a water tower! A small amount of water (used over and over) sprays over the condenser coil. Result: Air-Mist uses 20% less electricity . . . gives 25% more cooling capacity. 3 and 5 tons.

### Better than any sales talk . . .



Coleman cooling proves itself on performance. Because the Coleman line is so flexible you can balance the system to the exact cooling and humidity requirements of the home . . . as well as to the buyer's budget. And for sales-clinchers, Coleman gives you the most competitive "exclusives" in the business. It's the sure way to close those "chain-reaction" sales that mean big volume.



PLENUM units fit on top or below furnace, use the heating ducts to distribute cooling throughout the home. 2 and 3 tons.



VERTICAL units with blower, work with furnace alone, or paired with a plenum unit. May also be installed independent of heating. 1, 2, 3, 5 tons.

THE COLEMAN CO., INC. WICHITA 1, KANSAS

For more information about products advertised on this page use Information Center, page 36.



## Home Cooling --

(Continued from preceding page)  
ing equipment have begun to wonder if this idea is so good, after all. Part of the initial cost saving comes out of your sales pocket," Rogers admitted.

"You sell a smaller unit number than would have been needed if the owner never heard of comfort engineering. So perhaps you are against the idea."

Equipment manufacturers would, however, be "generously benefited" if comfort engineering standards were adopted widely, Rogers contends. He detailed 10 reasons:

### 10 Reasons for Adoption

"(1) The trend toward operating economy is desirable and practically inevitable. One of the industry's experts recently said, 'Up till now there has been an apparent willingness on the part of this industry to attempt to heat or cool anything that can be erected. In my opinion,' he added, 'this has been a shortsighted point of view, but a perfectly natural one. We have given lip service to good construction practice, including insulation, but we have not gone as far as we might in insisting upon it.'"

"(2) The Federal Housing Administration has been under pressure to raise its insulation standards because it has the task of lessening the risk of the mortgage lender," Rogers asserted. "If a home buyer has a more comfortable house, by reason of good insulation as well as good heating, and he can heat it at less cost than formerly, he has more money available to meet his mortgage payments."

"So FHA finds that more insulation is good business," Rogers declared. "It has already issued to its regional administrators a tentative draft of a revised MPR relation to insulation."

"Let me show you what this proposed FHA standard would do to the new-house markets for heating equipment:

"The proposal is to limit the permissible heat loss from a house in a graduated scale related to climate. Up to now the basic limitation has been a maximum hourly heat loss of 55 B.t.u. per sq. ft. of livable space. This has had no major effect on houses located in temperate or warm climates," said Rogers.

"The new plan applies the 55 B.t.u. loss to areas where the design outdoor temperature is -20° F. or lower. Then the limit drops to 50 B.t.u., 45 B.t.u., 40 B.t.u., and 35 B.t.u. per sq. ft. as design outdoor temperatures rise in 10° F. spreads to 20° F."

### What MPR Would Do To Heating Needs

Shown in Fig. 1 is Rogers' analysis of what the proposed new MPR would do to requirements for heating units in new houses.

"Note," he says, "the tremendous growth in demand for small units. Units rated less than 50,000 B.t.u. grow 25 times in demand; the larger units shrink in demand. Combining the two smaller sizes shows that units under 75,000 B.t.u. now command 47% of the market but in the near future they may

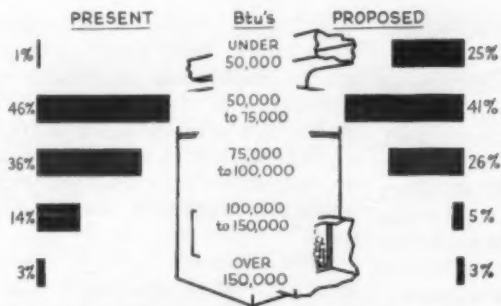


FIG. 1—If new requirements for insulation proposed by FHA are adopted, there'll be a sharp increase for small heating units under 50,000 B.t.u. in the new-home field and a corresponding drop in demand for big ones, according to Tyler S. Rogers, consultant to Owens-Corning Fiberglas Corp.

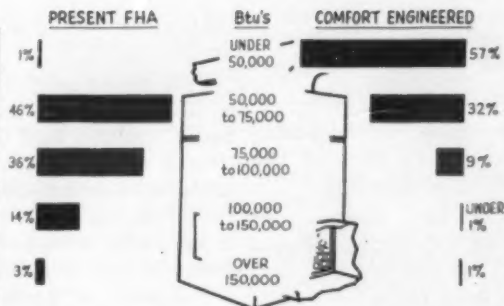


FIG. 2—If "Comfort Engineering" standards were widely used, an even greater swing to small residential heating units would be noted, Rogers estimates.

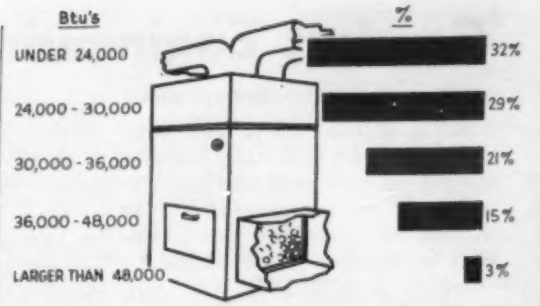


FIG. 3—As with heating units (Fig. 2) "Comfort Engineering" would shift demand for residential cooling units preponderately to small sizes, Rogers believes, and give a tremendous spurt to sales.

take 66% of new house sales." An even more drastic change would occur if "comfort engineering" standards were universally adopted, Rogers pointed out, illustrating this point with Fig. 2.

"For example, the small units may increase over 50 times in sales while the demand for the large sizes above 100,000 B.t.u.

may practically evaporate," he predicted. "The two smaller sizes combined will hog about 90% of your future furnace markets instead of 47% as of today."

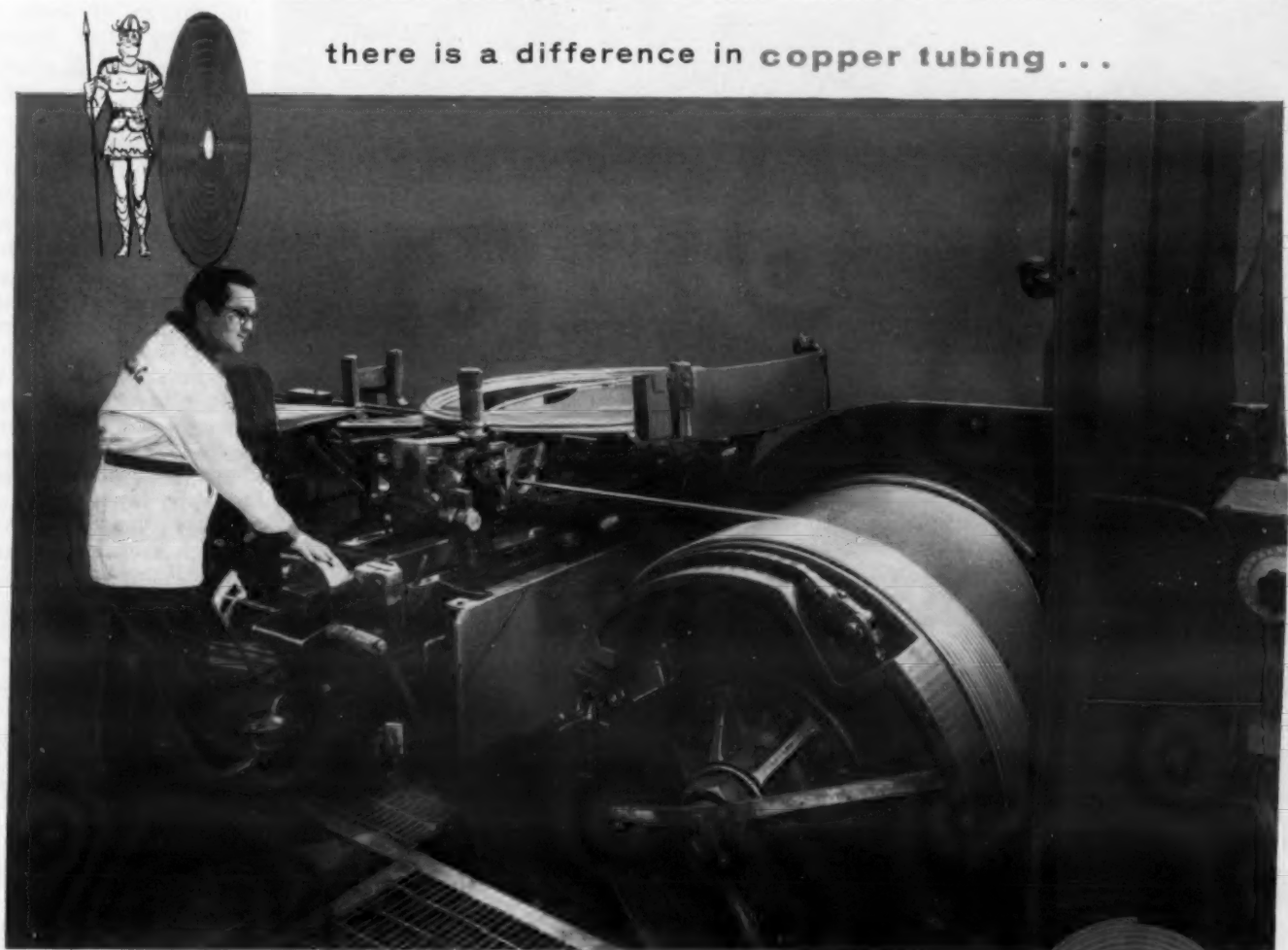
"(3) The Federal Housing Administration as present has no Minimum Property Requirement for air conditioned homes. But it is under pressure to

recognize air conditioning as a desirable sales feature and has created an advisory committee to guide it in this field," Rogers commented.

"One of the factors bound to influence FHA decisions is the demand of the electric heating industry for maximum insulation as a prerequisite to an electric installation," Rogers em-

phasized. "Their 6-4-2 rule (meaning 6 in. of mineral wool or equivalent insulation in ceilings, 4 in. in sidewalls, and 2 in. in floors) naturally delights the manufacturers of insula-

"But since everybody knows that it takes from three to seven times as much energy to remove (Continued on next page)



there is a difference in copper tubing ...

the difference in VIKING is

The "ENGLISH BULL" that draws to PERFECTION

To maintain the most rigid standards of precision and uniformity in drawing copper tubing, VIKING uses two 100-horsepower special made Bull Blocks imported from England — each with a capacity for drawing 1500 feet per minute continuous coils up to 1,000 ft. in length. A single "joystick" controls all machine operations, i.e. slow start, smooth acceleration, automatic stop and automatic re-positioning of die head.

To insure careful and efficient handling, a specially de-

signed conveyor system, block loader and unloader move coils to and from the block.

The "Bull Block" is another illustration of how VIKING copper tubing is achieving higher quality, greater uniformity and dependability of service. It is "differences" such as these that are creating VIKING's increasing acceptance by the manufacturers of air-conditioning units and coils.

VIKING copper tubing continues to be the result of the combined efforts of skilled craftsmen seeking always to create a tubing that will do the job better, faster and at lowest cost.



**VIKING** COPPER TUBE CO.

CLEVELAND 10, OHIO

PRECISION DRAWN SEAMLESS COPPER TUBING

#### EXTRA STRENGTH

The proper kind of strength and ductility is vital in tubing used for refrigeration and air conditioning purposes. VIKING copper tubing possesses these properties to a far greater degree than other types of tubing. Its temper assures flawless fabrication.

#### EXTRA FLEXIBILITY

Viking Copper Tube is soft and pliable, yet exceedingly rugged. It saves time and labor because it can be coiled, formed, flared and expanded quickly without danger of fracturing or splitting.

#### ELECTRONIC QUALITY CONTROL

An electronic "Brain" detects the minutest flaw or imperfection in the walls of VIKING tubing . . . automatically discarding defective tubing. Trouble-free fabrication is virtually guaranteed — operational failures almost completely eliminated.

For more information about products advertised on this page use Information Center, page 36.



## 'Comfort Engineering' --

(Continued from preceding page) a B.t.u. of heat as to add it to a house, and since most cooling equipment now sold uses electrically driven compressors, it is logical to apply the 6-4-2 concept to cooling installations.

"This is exactly in step with 'comfort engineering' standards," Rogers said. "The wisdom of such practice is amply demonstrated by our Low Cost Comfort National Test program."

Fig. 3 shows Rogers' estimate of the demand pattern for central residential air conditioners in the future, as based on the Low Cost Comfort studies.

"Units rated at 24,000 B.t.u. or less will represent 32% of the market, with units rated between 24,000 and 30,000 B.t.u. representing the next largest

segment, 29%," Rogers declared. "Note that these two smaller sizes should satisfy 61% of the future new-house demand."

"The next two sizes, from 30,000 to 48,000 B.t.u., should satisfy 36% of the market. But there is no need for a 5-ton unit as a special residential item. The last 3% of the house market can probably better be handled by custom adaptations of commercial units," he suggested.

"These figures are all related to the new house and do not reflect the large replacement business enjoyed by equipment manufacturers. Also, they are based upon the correct sizing of equipment in relation to load. One by-product of our Low Cost Comfort study has been to confirm the association's findings

that 'most furnaces are too big or too small.'

"We found such conditions as a 96,000 B.t.u. furnace in a house with half that load. Thirty-six per cent of cooling units were under-sized; we often found builders planning to use 2-ton units where the load, before comfort engineering, called for 3 tons or greater capacity. Less frequently we found builders apparently anxious to 'play safe' by specifying 5-ton units where 3 tons or less would serve," Rogers said.

"(4) The most important new fact developed in our national test program is that the long-revered 'law of diminishing returns' needs a drastic overhaul, at least when applied to building insulation. Theoretically, the first unit of insulation does the most good, and subsequent increases in insulation thickness do progressively

less for the buyer. The fallacy is to think, first, that costs go up as insulation thickness is increased. It does not rise in proportion because labor is such a large factor and labor costs do not materially change with insulation thickness," he pointed out.

"The second fallacy comes into play when equipment sizes can be reduced. A builder can save \$35 to \$50 when he drops one commercial size in heating units and around \$200 when he drops 1 ton in cooling capacity. When these savings are credited against the cost of comfort engineering improvements that make them possible, we usually

find that it is the last inch, instead of the first inch of insulation that makes the biggest initial saving," Rogers emphasized.

"The break point varies with individual houses and with climates. But in general our studies show that the best results come from the maximum use of insulation. A slight improvement in insulation standards, such as FHA proposes in its tentative new MPR, does increase comfort to the homeowner and lowers his annual heating cost, but it rarely offers a compensating saving in initial cost to the builder," he commented.

(To Be Continued)

## Inside Dope By GEORGE F. TAUBENECK

(Continued from Page 1, Col. 1) realistic price competition.

In that connection J. F. Knoff, Chrysler Airtemp vice president in charge of sales, writes a flattering letter. Quote:

"I am sure at every turn you are hearing from different segments of our industry, the cries and condemnation statements about our particular industry business so far this year.

"Maybe what we all need is that well known 'shot in the arm' from people like yourself, who so masterfully carry a message to their audience that inspires new hopes, enthusiasm and the determination to pull themselves back into business by their boot straps. There are only a few men in this country who have the native platform ability to really lay-it-on-the-line with a serious yet good humor approach such as you have.

"I would think, George, that the greatest contribution you personally could make to our business today is to start a speaking tour to try and arouse the air conditioning and heating industry—thru distributors and dealers—to take action and start selling the benefits and to Hell with the price.

"If you think well of the plan and elect to go ahead with it, I believe all manufacturers should be given the schedule and I am sure they feel as I do that we would go to any lengths to see that our people as well as distributors and dealers attend the meetings. Each individual manufacturer could well afford to carry the same message in effect to local business clubs, luncheon clubs and other public gatherings which they attend.

"The time has come when we as individuals within an industry must recognize if we are going to do well and progress, we do it as an organized industry and not as manufacturers trying to steal personnel and ideas from one another and blindly keep cutting prices in hopes that some miracle will change our business.

"Let's get that George Taubeneck spirit and enthusiasm where it will do all of us a lot of good."

Inasmuch as it is a bit late to organize such a speaking tour, and be in two dozen places simultaneously, we offer in this issue of the NEWS an editorial on the subject, plus the following spill-over thoughts.

A tremendous change in public "taste" has occurred since World War II. This mass up-

grading truly is spectacular. As never before, America's people can afford higher standards of goods and services (formerly confined to the "carriage trade") and WANT THEM.

Anybody who still thinks price is the most important factor in merchandising simply hasn't caught up with this remarkable trend. He's out-of-step with the times.

Two distinct but related phenomena are involved. There now is a concerted desire for what loosely is called "culture." And the whole base of mass merchandising has shifted from stark usefulness to the stylizing characterized by "good taste."

Nowadays it isn't "how much can I get for how little." Rather, it's "how can I spend or borrow money to live better, and be admired?"

### Style Consciousness vs. Price-Cutting

Something extraordinary has happened to the average consumer in recent years, apparently. Russell Lynes, in his book *The Tastemakers*, argues that vast American family fortunes erected a wall between criteria of the "elite" and touchstones of the lower and middle economic groups—up until 1931. That dike cracked during the Depression, and never has been the same.

The war boom brought low incomes up enormously. Moreover, the steeply progressing income tax has levelled economic "classes" in striking degree ever since.

Paradoxically, a gap-closing such as this normally should create uniformity in taste. Actually, the converse is true of America's situation. There is a much wider range of goods from which to choose nowadays, and consumers are exploiting that situation enormously.

Witness the upsurge in adding color to kitchen appliances, and the imaginative treatment of kitchens themselves! Look at the wider variety of auto models, of furniture, of houses.

Today's more sophisticated consumer is more independent in his discrimination than his forbears. He is, in fact, approaching Noah Webster's definition of taste: "The power of discerning and appreciating fitness, beauty, order, congruity, proportion, symmetry, or whatever constitutes excellence; critical judgment, discernment, or appreciation."

(Concluded on next page)



## "MAINTENANCE COSTS LOWERED since using Calgon's BIG 3 Cooling Water Treatment Products"

R. C. Hansen, Engineering Department, ACF-Wrigley Stores, Inc.

Maintenance costs on cooling towers and evaporative condensers have gone down since the use of the Calgon BIG 3 products was begun at this Wrigley Supermarket in Livonia, Michigan. Mr. Hansen states that he has used Calgon® Scale Remover, Micromet® Plates and Calgon Algaecide and found all three very satisfactory.

Keeping refrigeration and air conditioning systems functioning at top efficiency with minimum maintenance costs, is a job which Calgon's BIG 3 do extremely well. Each is a product of Calgon research and each is designed to perform efficiently and at low cost.

Micromet Plates provide continuous treatment to inhibit further scale formation. A single charge will last about six months and the inexpensive feeding bag is easily installed.

Calgon Algaecide controls algae and slime growths. It comes in pellet form for convenience in handling. Positive action kills the growth. Periodic addition keeps equipment operating efficiently.

Calgon Scale Remover makes it easy to clean up a system completely. Corrosion inhibitors protect system while in use. Special built-in pH color indicator shows how much of scale remover to use, and helps tell when system is clean.



SEE YOUR REFRIGERATION WHOLESALER FOR CALGON'S BIG 3!



**CALGON COMPANY**



A DIVISION OF HAGAN CHEMICALS & CONTROLS, INC.  
HAGAN BUILDING, PITTSBURGH 30, PENNSYLVANIA  
DIVISIONS: CALGON COMPANY · HALL LABORATORIES



## Inside Dope

By GEORGE F. TAUBENECK

(Concluded from preceding page)

### Price Has Taken Back Seat to Prestige

Although manufacturers and retailers must cope with the yearning for diversity (thereby incurring production, warehousing, financing, and distribution headaches) this trend has helped our expanding American economy to grow and grow and grow. And note well: price-cutting has nothing to do with it.

Today's consumers hunger for the emotional satisfactions inherent in acquiring better things, goods which reflect both their higher incomes and their better "taste."

Education, prosperity, the suburban movement, and advertising all have helped reshape the mass market. Take education: There are 39 million children in school, and nearly 30 million adults are studying self-improvement courses of some kind. If anyone escapes the classroom, he is ensnared somewhere else by a gadget (shall we say?) which affects his thinking.

Movies, magazines, newspapers, radio, television—all bombard this fellow with irresistible forces which make him culture-conscious and style-conscious.

Currently our citizens hop into an automobile and ride into new vistas—all around the nation and abroad, too. New scenes and new ideas were presented to our young men when they traveled to foreign lands during World War II. All such travel adds up to better "exposure" to the good things of life for millions of citizens.

No longer are they satisfied with thrifty parsimony. Today they go into debt to live better.

Auto makers sell fashion, not long car-life. And when the market becomes increasingly saturated for any other product (like a refrigerator) social pressure impels an owner to trade in his old but still useful model on a new, better looking one.

Consumer eagerness for this social status may be the most vital marketing factor of all.

Producers are introducing designs now they wouldn't have dared to offer a generation ago, when people were more conservative. Consumers want The New because it means Prestige. Thus is obsolescence hastened.

### Self-Improvement Urge

Along with acceptance of planned obsolescence as a Way of Life has come tremendous desire for personal self-improvement. Young mothers wheel baby-carriages through art galleries; homemakers study courses in home decoration. Here in Detroit our Art Museum doubled its attendance between 1941 and 1956. The Boston Arts Festival upped its patronage from 150,000 in 1952 to 600,000 last year.

The Music Room of Carnegie Institute in Pittsburgh checked out 12,000 records last year, mostly classical, up from the 8,500 the previous year. Boston Symphony concerts have been sold out for the last 10 years.

In do-it-yourself culture, painting has acquired an unbe-

lievable number of devotees (and we don't mean house painting). Amateur theater groups have grown markedly. More pianos and organs are being sold. Growth of art film theaters is impressive.

Radio's strengthened interest in music (if you can term rock-and-roll or calypso "music"), the expansion of hi-fi cults, and minor improvements in movies have resulted. Music appreciation records, special book clubs, rental systems for original paintings are splurging.

Even though there may be some faddishness in these manifestations, most observers feel that there's been a real advance in our national level of civilization. Some people may not particularly want all this, but they are exposed to it anyhow, and it rubs off on them.

In a mild way, culture competes with product for the discretionary dollar, and for the

leisure time which so many businesses find profitable to fill.

However, the "culture boom" offers clues as to the values which people in the mass are seeking. For example:

The modern housewife may react in apparently contradictory ways, even though she knows a lot more about a lot more things than her mother ever imagined could exist.

You see, she feels less secure than her mother did. She knows more, and has more, but she is more anxious about the fitness of her choices. In what she buys she seeks social approval.

### Dealer Responsibility

Nowadays, before the home-maker lays her money on the line, she does an enormous amount of private research. She looks over displays and scours the stores to make sure what she is buying "is right." Often

she is confused by the sheer abundance of goods from which she can choose.

Advertising sometimes adds to her uncertainty by presenting a hopelessly idealized picture. Bad retailing techniques can throw her into an even worse swivet.

Hence, dealers should buy more critically, and sell more enterprisingly. Obviously they have considerable responsibility to guide customers, and help them upgrade themselves.

If retailers can't carry the wide inventory needed to accommodate increased varieties in tastes, manufacturers may try to subsidize expanded floor stocks. That will increase their costs, obviously.

In addition, it imposes touch-and-go production schedules, as well as enormous charges incident to periodic retooling for annual restyling.

Manufacturers are more than willing to accept "good taste"

as a guide for annual changes, however. This attitude that their products are "disposable" while still useful is a unique American contribution to world economic thinking. Nowhere else but here is that concept accepted.

Opportunities for small and daring manufacturers are rife in this situation. They're the innovators, often, because it's their best way of competing with the power of the giants.

Above all, industry and commerce need to remember that they are dealing with a more highly skilled consumer, and a genuinely eager-for-improvement consumer, than ever existed previously. Their job is to whet His-and-Her growing appetite for "good taste."

Price has lost its former death-struggle significance in this new American Revolution. Nowadays it's Prestige that is the prime motivator.

When the system's full... the indicator tells you so!

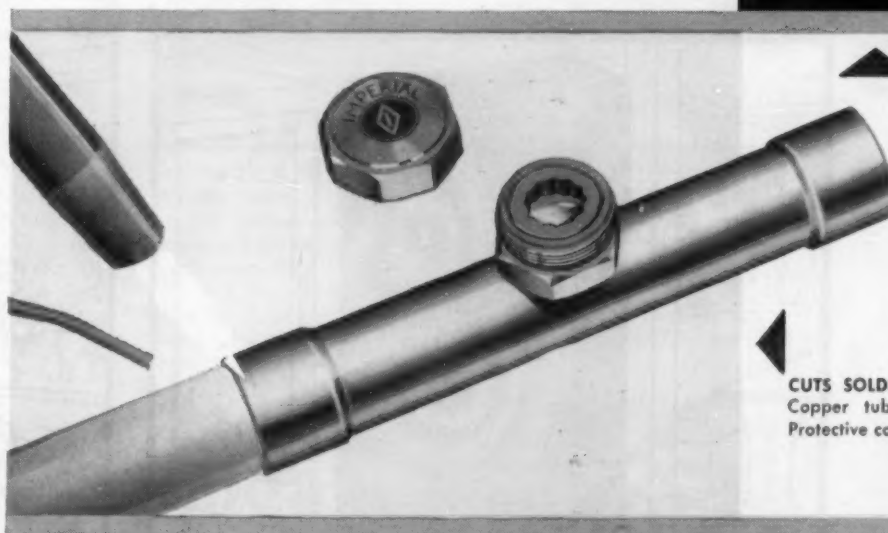
## IMPERIAL "magic eye"

shows need for refrigerant at a glance!

Man! This single-port liquid indicator is without question the greatest work and time saver on the market today! One quick glance and you know immediately if system needs refrigerant. Simple as that. No squinting or guessing!

Installs in a flash... it's positively leakproof... gives years of trouble-free service! A masterpiece of simplicity, compactness and top quality.

Install Imperial "Magic-Eye" Liquid Indicators on your next jobs — find out first hand how they make money... build extra customer satisfaction for you.



**LEAKPROOF — TROUBLE-FREE** — Heavy crystal glass in port hole is thermo-shock and pressure resistant. It's positively sealed with confined sealing medium.

Husky forged brass body, on flare type, cannot be distorted in assembly. Generous wrench flats. Extra-strength walls. Indicator has been pressure tested to 4,000 psi. Swivel and male flare connections precisely machined for positive take up and leakproof re-connection.

**CUTS SOLDERING TIME** — No Disassembly — Copper tube extensions dissipate heat. Protective cover for glass guards against dirt and damage.

IMPERIAL "Magic Eye" Liquid Indicators available in these sizes:

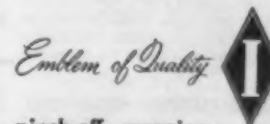
No. 271-C, FEM. FLARE SWIVEL x MALE FLARE CONNECTION: 1/4, 3/8, 1/2" O.D. No. 270-C, MALE FLARE CONNECTIONS: 1/4, 3/8, 1/2" O.D. No. 275-C5, SOLDER CONNECTIONS, 1/4, 3/8, 1/2, 3/4, 7/8, 1 1/8, 1 3/8, 1 5/8, 2 1/8" O.D.

Order from your jobber. Write for Catalog 81.

## IMPERIAL

THE IMPERIAL BRASS MFG. CO.  
566 South Racine St., Chicago 7, Ill.

In Canada: 334 Laurier Ave., Toronto, Ontario



FITTINGS • VALVES • DRIERS • CHARGING LINES • TOOLS for cutting, flaring, bending, pinch-off, swaging.

For more information about products advertised on this page use Information Center, page 36.



**Inspector Tells Why****Revamped Shreveport Code Levies Steep Refrigeration, Air Conditioning Fees, Sets Up 3 Classes of Contractors**

SHREVEPORT, La.—An explanation of the sharp increases in registration and renewal fees for air conditioning and refrigeration contractors here was given by Clyde Juneau, air conditioning and heating inspector for the city of Shreveport.

Registration fees have been raised from \$10 to \$50-\$150 and annual renewal fees from \$5 to \$50-\$150.

**Lists Number Of Reasons**

Juneau stated that increases were "due to a number of reasons that have confronted this office in the past. For instance, our penalties were greater than our fees. Therefore, a person or firm installing equipment without registering would prefer applying for registration rather than face the penalties, although the intention of such person was merely to get by on this one job.

"In some cases, it was almost impossible to get these persons back to correct their installations, their investment with this department was too small to create an interest.

"Rather than having a straight fees for registration, it was decided to divide them into classes so that the smaller contractors who were doing residential work or those doing small commercial refrigeration work would not be penalized by a large fee.

"Therefore, a contractor may apply for the class which suits him best according to his knowledge, experience, and financial status.

"No one would be deprived of entering into this type of business. Contractors doing jobs of \$100,000 or over should be able to afford to pay a \$150 registration fee easier than a \$5,000 contractor can afford a \$100 fee.

"Additional revenue was also needed in order to keep the department on self-supporting basis, to increase the personnel, and to give additional service to the expanding suburbs and to the contractors especially on surveying of old jobs."

**Clarified, Added To Cooling Code**

Juneau went on to say that other changes made in the air conditioning code were to clarify some previous regulations, and to add standards which were not previously covered.

"Also included in the revision were standards of design and installation, to protect the general public from installers who would not follow accepted good practices."

The more significant changes

divided contractors into three classes, required the registration of journeymen, required permits for repairs costing more than \$100 as well as installations and alterations, and adopted some additional standards.

**How To Get a Certificate**

To get a certificate a journeyman must have three years experience and/or take an examination to demonstrate his familiarity with the city code provisions. Fee is \$1.00.

Contractors are classified in three separate categories: Class A, Class B, and Class C, as follows:

"Class A—Air conditioning,

heating, mechanical refrigeration, and ventilation contractor limited, shall be permitted to install, alter, or repair, air conditioning, heating, mechanical refrigeration, and/or ventilation equipment or their component parts and controls not to exceed 7½ hp. or equivalent tons in refrigeration and/or heating capacity of 250,000 B.t.u. input rating.

"Class B—Air conditioning, heating, mechanical refrigeration, and ventilation contractor limited, shall be permitted to install, alter, or repair, air conditioning, heating, mechanical refrigeration, and/or ventilation equipment or their component parts and controls not to exceed 25 hp. or equivalent tons in

**Mueller Launches Filter-Drier, New Products Promotion**

POINTING OUT features of the new "Drymaster" filter-drier Mueller Brass Co., Port Huron, Mich., has just introduced, Orville Payton (l.), advertising manager, shows Charles Black, wholesale distributing division manager, and Robert Gray, development engineering department head, the new handbook on the unit. Claiming the Drymaster is "the most far-reaching development in years," Black says the company has just launched an extensive advertising and sales promotion campaign featuring the theme that Mueller Brass products for 1957 "are out of this world." A feature of the program is a cutaway filter-drier embedded in clear plastic, which along with an easel mounted display, will be distributed to Mueller Brass wholesalers.



refrigeration and/or heating capacity of 15 boiler hp. or 450,000 B.t.u. input rating.

"Class C—Air conditioning, heating, mechanical refrigeration, and ventilation contractor unlimited shall participate in all types of installation or altering

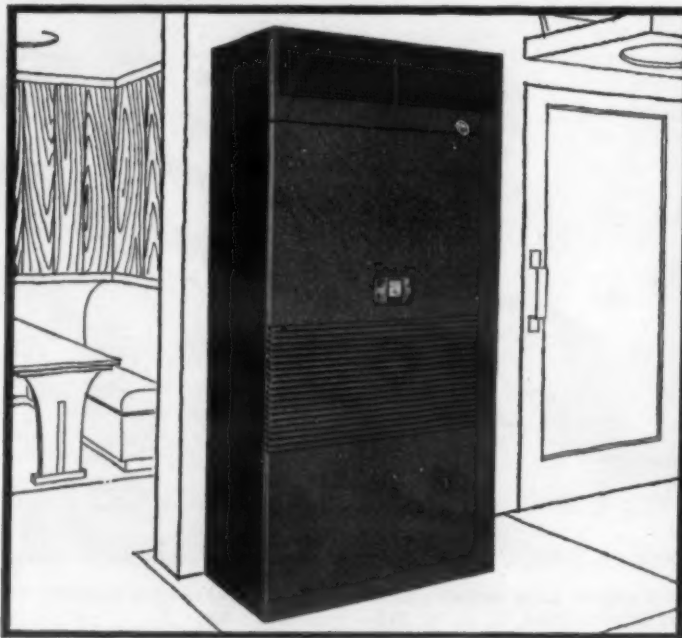
and repairing of air conditioning, heating, mechanical refrigeration, and ventilation equipment, and/or their component parts or controls."

For Class A registration, initial fee, annual renewal fee, (Concluded on next page)

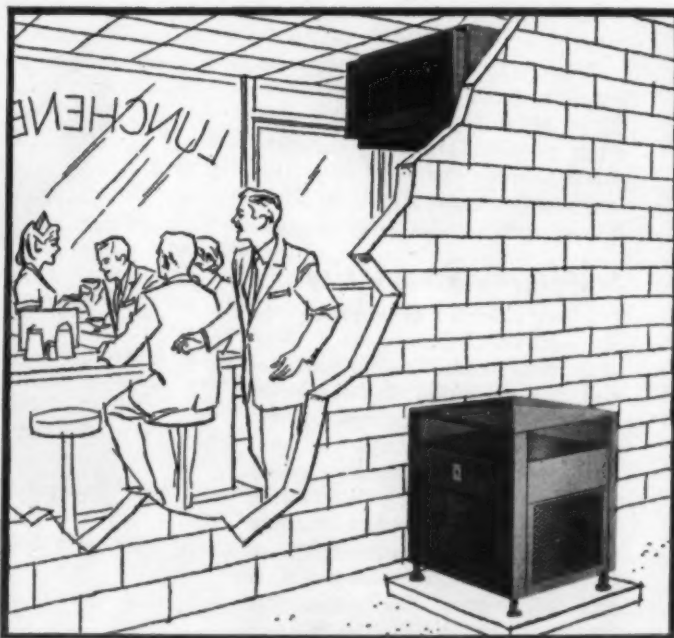
**YOUR AMERICAN-Standard DISTRIBUTOR**  
AIR CONDITIONING DIVISION**STOCKS EXACTLY THE LIGHT COMMERCIAL****Air-cooled and water-cooled units ... 2, 3, 3½ and 5 hp packages and add-ons**

You can meet the requirements of any light commercial installation from the complete line of air-cooled and water-cooled package units and add-on units made by American-Standard Air Conditioning Division. No need to maintain a costly inventory ... no delays in finishing your jobs—you

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**CONVENTIONAL WATER-COOLED PACKAGE INSTALLATION.** Model CCA water-cooled package units are handsomely styled, ruggedly built, extremely compact. The 5 hp size, shown here, is only 42 inches wide; the 2 and 3 hp sizes only 25 inches wide. All are competitively priced ... all have 100% hermetically sealed refrigerant circuits covered by 5-Year Protection Plan, and numerous engineering extras that mean top performance, low operating cost. Units are factory assembled for quick, economical installation. Your customer knows that American-Standard quality protects his investment.



**AIR-COOLED SPLIT SYSTEM INSTALLATION.** Model AC-A outdoor air-cooled condensing units and Model RC-B blower equipped evaporator units combine to provide 2, 3 or 5 hp capacity. Covered by 5-Year Protection Plan. The evaporator can be suspended from any suitable location within the conditioned area ... doesn't use any valuable floor space. Four-way directional air-flow grille (optional equipment) permits precise control of air distribution for maximum comfort. The evaporator can also be connected to ductwork. Your customer knows that American-Standard quality protects his investment.

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Safely supports hanging pipes, conduits and cables up to 500 lbs. ¼ in. 20 gauge electro-galvanized steel. ¼ in. holes on ½ in. centers. Various lengths available. Send for literature.

MINERALLAC ELECTRIC COMPANY  
25 N. PEORIA ST. • CHICAGO 7, ILL.



## Shreveport's Increased Fees --

(Concluded from preceding page)

and guaranteed fee deposit are each \$50. For Class B, all fees are \$100, and for Class C, \$150.

Initial and/or renewal fees shall be submitted with the application. No fee shall be prorated. In the event the applicant fails to pass the examination, 50% of registration fee shall be returned to him.

Annual renewal fees shall be paid on or before the first day of each calendar year; delinquents shall be charged a delinquent fee of \$10 per calendar months of delinquency.

Certificates that are not renewed within 90 days of expiration shall be automatically cancelled. In order to receive another certificate, applicant shall have to re-register.

Upon receiving an initial or renewal certificate of registration, the contractor shall de-

posit and maintain with the air conditioning inspector a guarantee fee.

Upon cancellation of registration certificate, by failure to renew within 90 days of expiration, or by revocation of certificate, applicant will be refunded said deposit minus any fee owed the city of Shreveport. Fee shall not be used for any other purpose.

The code says piping of water and gas supply to equipment; rewiring, disconnecting, or re-connecting of electrical wiring to all motors and controls shall be by a journeyman qualified by the air conditioning board and registered with the city of Shreveport.

Wiring of motors and controls of 40 volts or less shall be by temperature control contractor or by qualified and registered air conditioning journeyman. Electrical wiring shall be by

licensed electrician on equipment with 40 or more volts.

### Permit Needed for Installation, Change

Section 112 of the code states: "A permit shall be required for every new installation or alteration of a system. An 'alteration' shall be any change involving an extension or addition to the system; a change in the arrangement, type or purpose of the original installation; a change in the size of the equipment utilized or relocation.

"Permits shall be required for repairs when any component part or piece of equipment is replaced when the cost of such repairs or replacement exceeds \$100, including labor.

"Permits shall be required for all vented type heating units; all air conditioning and/or combination air conditioning and heating units with ductwork attached; and all remotely installed, or water-cooled refrig-

eration and/or air conditioning units.

### Fees Based on Contract Or Selling Price

Permit fees shall be based on the contract or selling price of an installation, alteration, or repair job. When material and labor are furnished separately, fee shall be based on the value of the material and labor.

Minimum fee or fee for the first \$1,000 cost of contract or selling price shall be \$3; for each additional \$1,000 fee shall be \$2 or 20 cents per nearest hundred. This fee is not to be duplicated in building permit. On jobs started before permit is obtained, fees shall be doubled.

No permit shall be issued to a firm that has failed to repair a rejected job within 20 calendar days of rejection date. If corrections are not made within 30 calendar days of rejection date, the firm can be penalized.

The code, which already had

adopted the ASA-B9.1 standard by reference, added ARI standard 530 and 610, the ASHAE Guide, and NWAHACA manuals as standards of performance.

## Mobile Settles Row; To Use City Water for Courthouse Cooling

MOBILE, Ala. — The Mobile County Board of Revenue has apparently settled once and for all the question of what water supply source to use for the air conditioning system in the new courthouse.

The board instructed Palmer & Baker, Inc., engineers, to draw up plans for a water cooling system that will use city water.

The engineers originally drew the plans to include a water well system. The plan was to drill a well to about 700 ft. and tap the same source providing water to Merchants National Bank and the Gulf, Mobile & Ohio Railroad building. Estimated cost was \$40,000.

However, members of the Board of Revenue asked at the January courthouse bid letting that this part of the plans be delayed for 45 days while they studied it.

Daniel Construction Co., Birmingham, left that part out of the contract and left the way open for final settlement of the issue. However, the board went three months and still hadn't decided the question until recently.

An informed source said the big doubt was whether the water supply would be permanent enough in the well.

After weeks of indecision the board knocked the well out of plans. They did so after officials of Merchants National Bank and the GM&O Railroad warned them they "probably will run into trouble" with the well.

Commissioners Joseph R. Mitternight and John Fagerstrom flatly opposed the well. Board Chairman Leroy Stevens said he did not want the well but did not want a large cooling tower on top of the court building.

The board finally solved its problem by specifying that the cooling tower be placed on the southwest corner of the courthouse lot.

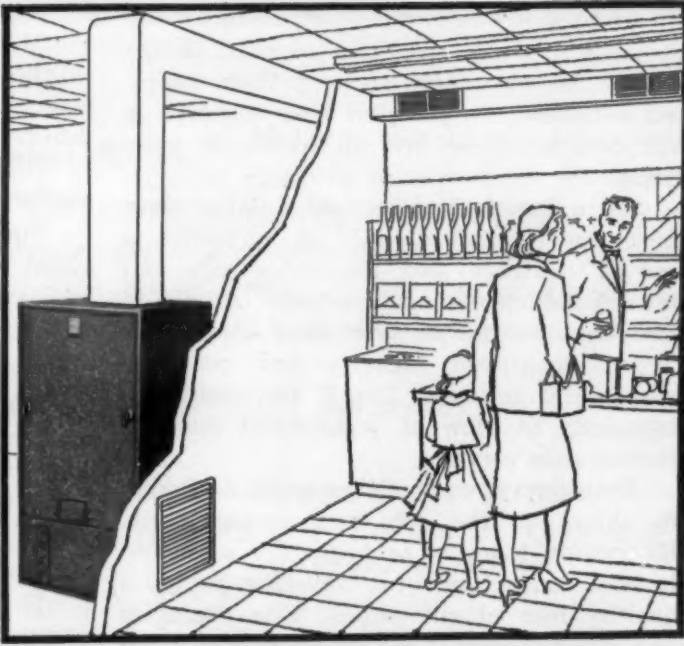
No estimate has been made on the cost of the cooling system. The tower will be shielded from public view by a high brick wall worked into the design of the building by Architect Cooper Van Antwerp.

However, engineers were quoted as saying an underground tunnel may be necessary to carry the two water pipes and a steam pipe to the tower and a return pipe to the pump room.

# RIGHT UNIT FOR EVERY AIR CONDITIONING JOB!



**AIR-COOLED PACKAGE INSTALLATION.** Model ACP air-cooled packages are available in 2 and 3½ hp sizes; completely self-contained, combining under one jacket a powerful twin compressor assembly, condenser, evaporator and blower. Refrigerant circuit is 100% hermetically sealed and covered by 5-Year Protection Plan. Unit can be located outdoors on roof, as shown, or installed through or against any outside wall, with or without ductwork for air distribution. Your customer knows that American-Standard quality protects his investment.



**WATER-COOLED PACKAGE INSTALLATION WITH DUCTWORK.** Placed adjacent to the conditioned area, the Model HCA-F blower-equipped package unit can be quickly and economically installed with simple ductwork to air condition any small store, office or other commercial establishment... Available in 2, 3 and 5 hp sizes, compactly designed, sturdily built. All have 100% hermetically sealed refrigerant circuits covered by 5-Year Protection Plan. Your customer knows that American-Standard quality protects his investment.

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As a local business man, your neighborhood is important to you. As a local business man, you are important to your neighborhood. Support ACTION!

For more information about products advertised on this page use Information Center, page 36.

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## Price Cuts Are Root of Troubles

("Conscience of the Industry" Editorial  
by George F. Taubeneck)

(Concluded from page 1)

by his competitors. He never starts it, of course. Always it's the other fellow who is the so-and-so.

To be sure, there's a measure of truth to many of these complaints. BUT: Is it necessary to "follow the leader" (like lemmings onrushing to the sea into mass suicide) at all times? Can't individual dealers with good sense and imagination stem the tide locally?

Price-cutting nearly always is an admission of weakness. It's a flag of distress waving over your competitor's store. Maybe you've already got him on the run. Keep him running!

**Aren't there antidotes** to price-cutting on the local level? Of course there are, if you look for them. And have the guts to apply them! Following are some suggestions to dealers and contractors who are faced with such troubles.

First of all, keep your shirt on, and don't get scared. It's the frightened who cut prices, usually. Wait a couple of weeks before following suit. Then maybe it won't seem necessary.

Next, remember that cut prices don't always increase volume. Frequently the reverse is true. Customers figure they may go even lower when they read "distress" ads. In contrast, they rush to buy when prices are going UP.

Before you try to meet advertised lower prices, check the precise size or quantity figured by competition. (Often there's some deceit involved.) Then determine the actual quality of the product and service offered by Mr. Price Shaver. Finally, study the terms, allowances, and "packs" included in the advertised deal.

**Often the customer is bluffing** when he tries to hammer you down. Double-check those supposedly better deals he tells you about. Maybe they aren't real. Many a false price quoted by a buyer never was quoted by competition. The customer isn't always right; nor are competitors the only chiselers in this world.

Do what big department stores do: send out spies to do "comparison shopping."

Look for a "loophole" in a lower competitive price—it's nearly always there. Usually the competition has cut corners, or put "fine print" into a contract which may rook the customer. That isn't always true, of course. In such case it might be wise to

recheck your own original estimates when faced with lower quotations. Compare your quantities, qualities, and services with those of competition, and then you may want to re-figure.

**You could be wrong the first time**, you know. Everybody makes mistakes—that's why they put erasers on pencils.

Insist that a price-conscious prospect examine comparative specifications. Frequently cut-price cutthroats can be shown up as offering 2 hp. for the fair price of 3, or 10 cu. ft. for your 14, rather than vice-versa or even-steven.

When you point out your product's exclusive gimmicks, along with special things you do for customers to keep them happy and satisfied, the prospect may discover it will cost him less over-all to accept your terms.

Sell a **satisfaction package**, rather than merely a product alone. By including a service contract and guarantee you can avoid product-price comparison. An inclusive **satisfaction package** deal gives customers long-term security and peace-of-mind. And for that they'll pay willingly, especially in view of widespread dissatisfaction over service.

Detect ways competition might be trying to chisel on the job, and expose them. Everybody hates to be taken for a sucker. In that connection, give wavering buyers a healthy fear of cut prices. Cite examples and case histories of sad experiences suffered by people who bought on price alone.

**If you're a legitimate dealer** with a legitimate proposition, you will price honestly all the time—or you'll go out of business, eventually. Example: surviving discount houses more and more are acting like "legitimate" dealers.

If you've played the game squarely for a long while you can sell the merits of your company, and dwell on its reputation. Emphasize all the superior facts about your firm—its history of fair dealing—its expert and experienced personnel. All these attributes comprise a yardstick of **CONFIDENCE**.

Remember, superior salesmanship can win over mere sharp-pencil bidding, or frantic advertising of nailed-to-the-floor Loss Leaders.

**Best antidote for price cutting** is superior creative salesmanship. When price cutters begin to lose jobs to superior salesmen with higher prices, they become panicky

Air Conditioning & Refrigeration News, June 10, 1957

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and often retreat from the field. A salesman with a sense of service works hard to sell his product and his company with confidence and enthusiasm, for he has more to offer than price alone.

Men who have both the right attitude and the aptitude stand their ground and aren't afraid of losing an occasional job to a low-priced competitor.

**It's your FOREMOST job** to demonstrate the difference between price and value. Talk customer benefits instead of acting like you're running a bankruptcy sale.

And this is doubly important: Consider the ethics and future implications of cutting your price just because someone else has. You may want to sell that customer a different item, at another time, at **full price** on the basis of **QUALITY**. Don't let him consider YOU as a permanent sucker for HIS wheel-and-dealing.

Finally, don't get sore if, after all you've done, your client decides to buy strictly on price, no matter what consequences you may have pointed out. Make a good personal impression, and ask him to let you try for his future business.

**You see, his cheap deal** obtained from somebody else may backfire. Then he'll remember your quality story. In the long run it pays to be a good sport at all times. It also pays to maintain your reputation for fairness and high-grade business practices.

See all you can do to combat price-cutthroats?

It never is wise to follow them into the profitless volume cesspool. Instead of "following the leader" on temporary price-shaving, why not BE a leader?

With courage, you can lead competitors back UP into a decent, profitable, respectable situation for all. And they'll thank you for it.

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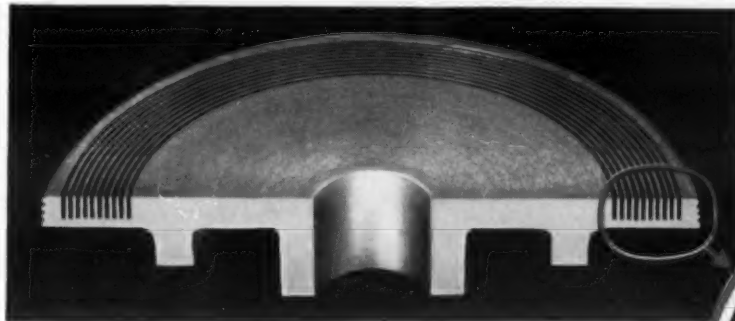
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City..... Zone..... State.....

IMPORTANT: Company's Type of Business.....



## Do Your Castings Require Sharp Corners Like These?



### The Denser Structure of **EATON** PERMANENT MOLD GRAY IRON CASTINGS Permits the Machining of Precise Corners

The fine dispersion of graphite in Eaton Permanent Mold Iron and its dense, non-porous, homogeneous structure make it an ideal material for many difficult machining operations where accurate dimensional results and sharp corners are essential.

Because its superior structure permits the machining of extremely thin sections and has the ability to take a high surface finish, Eaton Permanent Mold Iron is recommended for such critical applications as bearing retainers, connecting rods, pulleys, carburetor bodies, valve bodies, and service valves.

If you have applications which require these exceptional characteristics, our engineers will be happy to work with you.



The part shown above required that 10 grooves, .023" wide and .125" deep, leaving 9 lands .015" wide, be rapidly and simultaneously machined. Eaton Permanent Mold Iron proved to be the ideal material—completely eliminating the problem of curling chips in the small grooves, and crumbling of lands during machining.

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- ★ Excellent tensile strength
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# of Color

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At last, commercial air conditioning that is not only efficient, but quiet and beautiful as well. New Westinghouse Style-Master units give you 15 combinations of two-tone color and harmonizing trim. Make it possible to install automatic cooling that blends with the interior decor of any store, office, or restaurant.

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You get this tremendous range of color with minimum inventory. Both color panels and trim strips are readily interchangeable — slip on or off in a moment. You can give each customer the desired color combination with minimum effort — even if he redecorates.





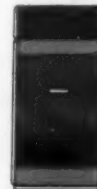









The smooth-line styling of all Style-Master cabinets makes

them easy to install — with or without ducts. You have a choice of air or water-cooled condensers — from 30,000 to 110,000 BTU/hour — to meet peak cooling demands wherever you sell. A finger-tip touch of the thermostat gives exact temperature desired — keeps it in balance with customer traffic, regardless of outside temperature.

Best of all, they are *whisper quiet* . . . completely insulated cabinets, spring mounted compressors and vibration-free components all combine to deliver maximum cooling with minimum sound.

The excitement of color—plus: fast delivery, sales training, technical aid, finance plans, local advertising, promotions — and more. Just a few of many reasons why the Westinghouse franchise is valued as the "Franchise With the Future" by leading contractors and dealers across the nation.

## YOU CAN BE SURE... IF IT'S Westinghouse



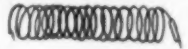



|   |   |   |   |  |   |   |
|---|---|---|---|--|---|---|
|  |  |  |  |  |  |  |
| Channel Green<br>Bronze Trim  | Penrod Tan<br>Bronze Trim   | Penrod Tan<br>Gold Trim   | Penrod Tan<br>Silver Trim   | Sea Mist Blue<br>Bronze Trim   | Sea Mist Blue<br>Gold Trim  | Sea Mist Blue<br>Silver Trim  |
|  |  |  |  |  |  |  |
| Channel Green<br>Silver Trim  | Chestnut Brown<br>Bronze Trim   | Chestnut Brown<br>Gold Trim   | Chestnut Brown<br>Silver Trim   | Charcoal Grey<br>Bronze Trim   | Charcoal Grey<br>Gold Trim  | Charcoal Grey<br>Silver Trim  |

Unit pictured is Channel Green with Gold Trim.





## How Can We Find A Company That Knows Refrigeration?

Wolverine Tube  provides the perfect solution to this question. Wolverine has grown with the refrigeration industry  —knows its problems at first hand—has developed many specialized products to meet those problems. Among them, for example, is Wolverine Trufin®—Type S/T,  the integrally finned condenser tube that steps up heat transfer performance. Type S/T was expressly designed to meet requirements throughout the refrigeration industry for condensing refrigerants in shell and tube condensers.  Another example is Wolverine Capilator®—the  tiny, plug-drawn capillary tube used for precision metering of gases and liquids. Capilator is produced to such close tolerances that it can be manufactured to easily meet customer flow specifications. In addition to these two specialized types of tube, Wolverine is also widely known for its top quality commercial refrigeration tube—available in many sizes in both straight lengths  and coils.  To help its refrigeration customers reduce assembly operations, Wolverine produces such prefabricated parts as refrigeration evaporator sub-assemblies,  copper-to-aluminum connectors,  and  extruded aluminum shapes. Wolverine's complete fabrication facilities include spinning,  beading, bending,  coiling,  flaring,  expanding, etc.—to name but a few of the possibilities. See what we mean? Where refrigeration is concerned Wolverine Tube has the answers—because it knows the industry's problems. The complete story is told in our new book "Wolverine Serves The Refrigeration Industry"  Write for your copy—TODAY!

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in Canada through the Unifin  
Tube Company, London, Ontario.

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## OFF THE CHEST

### TAKES EXCEPTION TO HIGH TAXES

San Diego, Calif.

Editor:

I read a statement by your Hon. W. D. Mills that we shouldn't repeal the income tax amendment, but should correct the unfairness of the 91% top-bracket rate by setting it at 75%—"Let's be fair!"

That's not all of the problem. Of course 14 years of this personal take (91% to 93%) looks and feels like legalized robbery to a high-bracket taxpayer—this, after his corporate investment earnings have suffered a take of 52%.

Can we expect a man to work himself or his money for 9% of 48% of corporate earnings of say 10% (balance after 52%) or .00432—less than 1/2 of 1% net after Federal taxes? Wouldn't he be a fool to venture money in the hope of earning a net return with such penalty? And if he suffers a loss under our "heads, taxpayer loses; tails, Uncle Sam wins," to be allowed to deduct only \$1,000 a year of his loss carried-forward five years? A "bunco" game if we analyze it!

Mr. Humphrey says the Treasury is now collecting less than \$300,000,000 annually from individuals paying more than 50% personal income tax! A mere pittance as the price of driving our country into socialism!

Now that World War II is over and we're well armed,

shouldn't we correct this situation? Make the rules and the rates fair? Give investors a run for their money? Why should brainy legislators like you collaborate with socializers? Punitive tax rules and rates are steadily, inexorably driving us into socialism! Government bonds at a discount—money scarce—interest rates rising!

Our enterprise system now needs tens of billions annually for new investment (\$15,000 to \$25,000 capital to put a man to work and keep him there).

Change our rules and rates and stop shackling the will to venture in this, still capitalistic, country. People might work for 50% and give the other 50% to the government. If we

would preserve our capitalistic system, limit income taxation constitutionally to 50%—inoperative automatically upon declaration of war by Congress.

Or, if years of this legalized robbery has not convinced all of us, raise the present peacetime 91% limit to 100%, which will emphasize our creeping taxation cancer so that the country will analyze the impossibility of carrying on a capitalistic system and demand remedy.

R. H. FLEET

### 'JABS' FUN AT TYPO ERROR

Sherer-Gillett Co.  
Marshall, Mich.

Editor:

It was cold down there in the South Polar regions according to Dope of May 27th. Even the gooseberry jam got a cold in the head and became gooseberry "jab" from the 45-year exposure.

J. H. WILSON,  
Adv. Mgr.

### COMMENDS HENDERSON'S LETTER

General Electric Co.  
Weathertron Dept.  
Bloomfield, N. J.

Editor:

Having just returned from a field trip, I am just now catching up on my correspondence and wish to compliment you on the foresight of publishing Bruce Henderson's letter which was reprinted on May 6th.

No doubt you have received many comments on this same subject. Both you and Mr. Henderson are to be commended for your forward thinking. The thoughts expressed apply to any type of air conditioning which, of course, means our Weathertron (heat pump). We support the sentiments expressed.

H. M. BRUNDAGE

### ASKS FOR CARTOON REPRINTS

Foremost Finance &  
Equipment Co.  
Jacksonville, Fla.

Editor:

We have been a reader of AIR CONDITIONING & REFRIGERATION NEWS almost since its first publication and, one of the features we really enjoy reading is the Jimmy Hatlo cartoon which appears regularly. In your issue of May 13 on page 24 appeared one that certainly was applicable to our business. Would there be any way possible that we could

get about 50 reprints or reproductions of this cartoon for distribution to our plants?

Incidentally, your Stories of the Week column is also enjoyable.

W. C. MCCLELLAND

#### Reprints Available

Hermetic Compressor Design, Development, by Henri Soumerai. Only 40¢ each.

Mail this ad with name and address to: Air Conditioning & Refrigeration News, 450 W. Fort St., Detroit 26, Mich.

## Most Everywhere — Home Air Conditioning Needs Attic Ventilation

To get best efficiency at lowest cost, home air conditioning needs attic ventilation. Removes hot air blanket that works cooling system overtime. Air cools for night comfort.



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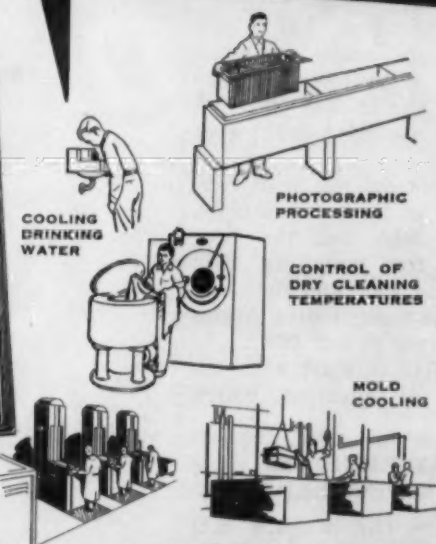
For information and prices send coupon below.

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Please send all information on Coolair Fans for attic ventilation.

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LIQUID CHILLER  
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**Acme INDUSTRIES INC., Jackson, Michigan**



Manufacturers of Quality Air Conditioning and Refrigeration Equipment since 1919

For more information about products advertised on this page use Information Center, page 36.



# The Women Like It

## Year-Round Air Conditioning Is Approved Because You 'Stay Home'; Have Hay Fever Relief; 'Have Comfortable Kitchen'

**JOHN W. NORRIS:** For years in the Lennox organization we had the policy of calling your dealers together quite frequently and talking with them about their problems with our equipment and what they do with it when they come to install it. We have learned a great deal from that, but there is a new twist in the business of finding out how to build and install equipment of this type.

This is my first experience with a panel of housewives who have lived in an air conditioned home, and I am looking forward to the questioning because I am sure that I can learn a great deal from it. I think I can learn something that will help our dealers in the process.

We are going to ask you questions about matters of comfort and health and house cleaning chores, and the dispositions of your husbands and your kids, and a lot of things like that, including what kind of treatment have you been accorded by the dealer who made your installation.

### 'DEALER MORE IMPORTANT THAN MANY REALIZE'

Incidentally, this dealer is a far more important individual in the business of home comfort than I think most of us realize. It doesn't make a bit of difference how good a job a manufacturer might do in building his equipment unless it is installed and serviced correctly; otherwise it is of no value to you at all.

We have to admit that if any friend of ours asked us what kind of air conditioning equipment he or she should buy, the only honest answer I could give anybody is:

"First, pick out the most capable dealer in your community, the fellow who has the best reputation for installing well and servicing well, and then buy whatever air conditioning equipment he wants to sell you."

I would like to start with the main topic or question, which is this:

### WHAT BENEFITS HAVE ACCRUED?

"What are the benefits that you have found important accruing from living in a home that is air conditioned 12 months out of the year? What benefits have come as a result of this new scheme of things in the home?"

**MRS. PINCHUK:** We have a home that was new when we bought it, and I found that it is very good. It worked good. In summer we don't have to go to the country because it is so cool that you don't want to go away and the kids don't want to go away. For that reason it is very good. It is really a luxury, but you save money because instead of going to the country you stay home.

Before we moved there we lived on the third floor, and it was so hot that we would have to lay on the floor. So every summer we would have to run away, but now that we have air conditioning, it is so cool, that

no matter how hot it is outside, you don't feel it. It is good to sleep, too.

**MRS. HOMEYER:** I think one of the most marvelous things about air conditioning is that in the summer children and adults alike who have hay fever are relieved. I think this is one of the things that really helped it along, and improved it a lot, too.

**MRS. FRANKS:** I think I appreciate the dual unit in my home a great deal more than most people because I have a hobby, a productive hobby, or rather, a paying hobby. I farm for a hobby.

I raise or grow 800 lbs. of food for my freezer, and some

400 pints of fruits and vegetables, and prior to the installation of the unit three years ago I would have to bring in my peas or green beans into the kitchen. It took from six to eight quarts of boiling water to process the foods in the freezer.

I have been doing this for 15 years, and my kitchen would be up to about 90, 95° F. Now my kitchen is 72° F.

Another reason that I like it so well is that I have two rooms in my home that I couldn't use before.

My husband is retired from a bank, and he is doing consultant work, and we do a great part of the work at home. I do his stenographic work in the after-

If you have any connection with the residential air conditioning field, we're of the opinion that the material which is published starting on this page is virtually **MUST** reading for you.

It consists of excerpts from the verbatim report of the Lennox Women's Forum. Members of this forum comprised housewives who have lived in homes with central residential summer air conditioning. They answered questions and volunteered statements about what they liked and found fault with in complete home comfort cooling.

What these women who have sampled the benefits of air conditioning in the home have to say about it would be worth reading if only for the boost it should offer to the spirits and confidence of those in the business. But it should also prove a most effective sales tool for those who wish to put it to work in that manner.

The next instalment will appear in the next issue of the NEWS.

noon and in the evening, when with a spoon. I would tell my husband. "I hope no one comes so I have to pick all this up."

Now I work upstairs in a cool 72°, and I like it very much.

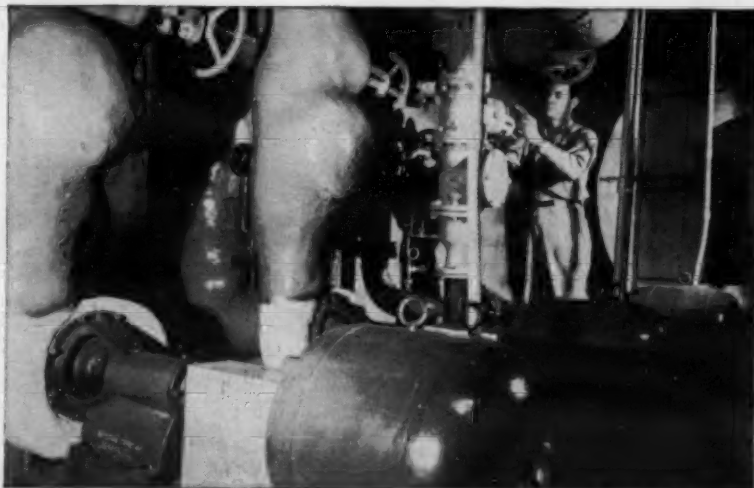
**MRS. WOLFE:** I live at 706 South Springwood Park, Park Ridge. You brought up the subject of cooking in the summer. Of course, when you have no

looked as though it was sheared (Continued on next page)

## How to modernize an office building



Complete interior modernization of this New York City office building included installation of Remington through-wall air conditioning units for outer offices on upper floors. Holes for air-intake grilles were cut in masonry beneath windows. Inconspicuous grilles were set flush with building wall.



Basement installation of pumps for circulation of Carrier central system's cooling water from roof towers to condenser and chilled water throughout interior of building. Chilled-water pump handles 358 gpm; condenser pump delivers 450 gpm. The third pump, capacity 450 gpm, is held in reserve to take over either operation if necessary. Refrigerant for central system is "Freon-12".



Outside offices at 72 Wall St. are heated or cooled by 459 Remington through-wall conditioners like those shown above. Each cabinet houses a 3/4- or 1-ton cooling unit and a separate heating coil connected to building's steam system. Each unit is charged with safe, dependable "Freon-22" to help insure top performance.

# FREON®



## 'Cooking Is Eased In Summer'; 'People Are Comfortable at a Party'

(Continued from preceding page) air conditioning you feel like doing nothing as far as cooking is concerned in the summer. It is 100% better now. I can't say too much.

**MRS. WENGERHOFF:** I am Mrs. Wengerhoff, and I live at 2935 Cleveland, Skokie.

When you entertain, there is no problem seasonably. You can fix anything ahead of time, or do anything you choose to do and you don't have the feeling that your house is going to be overheated if you are fixing a roast, or anything like that.

Everybody who comes in is comfortable.

**MRS. BAUMEISTER:** I am from Riverside. My husband is a physician and I was interested in it from the health angle.

I would like to point out to

you that not only do we benefit from our air conditioning, but my husband is a very busy man and the minute he comes home, he can relax. He is able to eat his meals properly and get the rest that he needs to carry out his schedule.

Likewise, he has had countless patients, particularly heart fever patients, install air conditioning because of the terrific benefits. They get away from the extremes of heat and cold.

**MRS. LAKOUTA:** I am from Glen Ellyn. I will start, Mr. Norris, by telling you what my husband says when he walks in the door—"Millie, this is heaven."

I am employed five full days a week and I do all my work in the seven-room house. My husband works very hard on an out-

side job and he perspires excessively. He comes in wet, even down to his trousers.

Well, our tempers are a little frayed at the end of the day, and before we got our air conditioning we were apt to get in one another's hair very easily, but the minute we get home we relax.

Another point that I want to point out is that I do all my scrubbing—by scrubbing, I have never learned to use a mop. I come from the old-fashioned school where I get down on my hands and knees. I also have never been able to work with gloves.

Well, before air conditioning, When I was scrubbing my hair would be flopping over my face and I would be perspiring. If anybody rang the doorbell, I ran because I didn't want to open the door. Since air conditioning, outside of probably having the slacks a little soiled at the knees, my hair is in place and



BRIEF welcoming address wherein Lennox Industries, Inc. President John W. Norris explained to the women on the owners' panel and representatives of the press the reasons for the forum on air conditioning.

I feel I can walk to the front door and welcome whoever might be ringing the doorbell, and I can bring them in.

**MR. NORRIS:** Your husband comes home after heavy work and he is wet with perspiration?

**MRS. LAKOUTA:** Yes.

**PRESIDENT NORRIS:** Is there any shock to his system?

**MRS. LAKOUTA:** No, be-

cause we keep that at an even rate of temperature, about 74.

**PRESIDENT NORRIS:** Does he suffer any shock?

**MRS. LAKOUTA:** No, he doesn't. Another thing, we both used to sleep very badly, and now it is such a comfort to get in bed with a light blanket and be able to sleep at night, all night through, without tossing from one side of the bed to the other, and in the morning getting up and saying, "Well, I didn't sleep, did you," and so on.

**MRS. R. C. MACNIDER:** We have a regular bucket downstairs. We have it dripping into that and we have watched to see how much we take out. Once you have the humidity down you can stand it much better.

Another point, I have a little girl who is two years old—of course, this last summer she was one—and you can't have it too extreme for them. All through the night we don't have to worry about her because of a temperature change on the outside, you know, with windows open.

This way she doesn't keep anything over her outside of her pajamas. We don't have to worry about having to make sure she was covered if the weather would change. We knew that she had the same temperature throughout the night and you could sleep much more soundly that way.

**MRS. LINTON:** I live in the northwest side of Chicago. Before we had our home air conditioned, the baby would definitely have prickly heat. I feel as Mrs. Macnider does, that it is very nice to be able to know that if a breeze suddenly comes up and comes in the open window and cools them off too much during the night, that you don't have to worry about that. We have the windows closed and have the same temperature all the time.

**PRESIDENT NORRIS:** What about housekeeping? Does it affect it any?

**MRS. MITTY:** If affected me in housekeeping. I like it very much. I find I can cook a meal instead of going to cold meals.

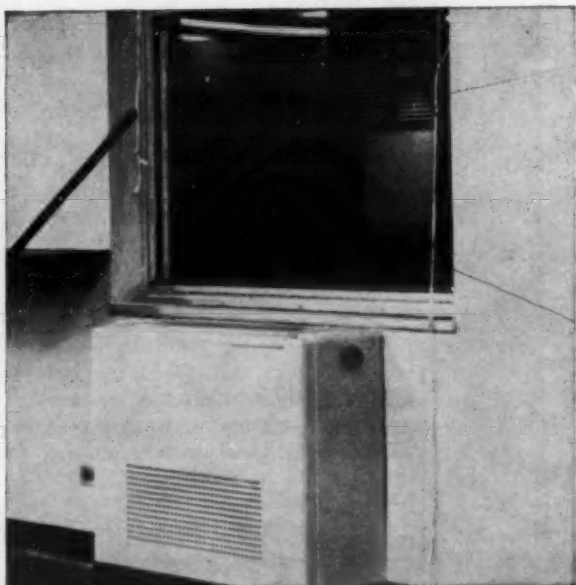
(Continued on next page)

## with a dual air conditioning system

Central system plus tenant-controlled through-wall units installed at a dollar saving of 50% to provide 665 tons of cooling in New York office building

Combining a Carrier central system with a Remington incremental system saved 50% on the cost of the air conditioning installation in the recently modernized office building at 72 Wall St., New York City. In cooling peripheral areas, 459 Remington units handle about 60% of the building's 665-ton cooling load. As a result, substantial savings were made possible through use of a smaller central system with reduced ductwork, plus lower over-all installation cost.

Both systems at 72 Wall St. are charged with Du Pont Freon\* refrigerants to help insure effective performance with minimum maintenance. Improved manufacturing techniques developed by Du Pont bring you safe, acid-free, dry "Freon" refrigerants that help your installations deliver their best. For data on applications, performance or properties of "Freon", write E. I. du Pont de Nemours & Co. (Inc.), "Freon" Products Division #17, Wilmington 98, Delaware.



with minimum maintenance. Building's dual air conditioning system was planned by architects Vorhees, Walker, Smith & Smith, working with the contracting firms of George A. Fuller Co. and J. H. Taylor Construction Co.



Thermostat and fan controls (above) for Remington units let occupants select temperatures they prefer year round. Cooling or heating can be economically limited to those areas actually in use. Cooling unit is drawer-mounted to simplify inspection, maintenance or repairs.

## REFRIGERANTS

\*Freon and combinations of Freon— or F— followed by numerals are Du Pont's registered trademarks for its fluorinated hydrocarbon propellants.



BETTER THINGS FOR BETTER LIVING... THROUGH CHEMISTRY

### HYLO MODEL C

**CONDENSATE PUMPS**

- ECONOMICAL
- DEPENDABLE
- HEADS to 20 FT.
- DOUBLE INLET
- 115 V. OR 220 V.

WRITE TO  
**EDDINGTON METAL SPEC. CO.**  
EDDINGTON, PA., U.S.A.



## It Maintains Humidity Level; 'Keeps Up Make-Up, Hair-Do'; 'Omits Screens'

(Continued from preceding page)

But in the beginning we put the air conditioning in for humidity, for Mr. Mitty, because he has hay fever and he is very annoyed at night because he can't rest. His business calls for him to be very alert the next day. I wasn't too much for air conditioning when we put it in, but after the first two weeks I was sold on it definitely.

I don't say about beauty, but it keeps up the make-up and hair-do, and it is nice coming out of a shower into a cool room instead of coming out hot, and you feel like you haven't had a shower and have to go back.

We keep our air conditioning on all summer.

**PRESIDENT NORRIS:** Did it relieve your husband's allergy?

**MRS. MITTY:** We have had it very pleasant with his hay fever because he works in an air conditioned place at the Board of Trade. Then coming home to a house filled with pollen, with the windows up, he couldn't tolerate it.

He has to take shots, as he always did, of course. It didn't cure him of it, you must understand that, but it did make him very comfortable.

**PRESIDENT NORRIS:** Does it build up enough resistance—since he works in an air conditioned atmosphere and sleeps in that—does that build up enough resistance so he can coast over the period that he wants to be on the golf course outdoors?

**MRS. MITTY:** Oh, yes; he works in the yard.

**PRESIDENT NORRIS:** It doesn't bother him too much?

**MRS. MITTY:** It doesn't bother him at all because as soon as he comes in, at night or in the evening when he finishes and gets ready to go to bed, he has an air conditioned place where there is no pollen and he doesn't have any trouble at all.

We have put in the cutoff where we sprinkle our yard with water, so our air conditioning is very good that way, not using up the water, which is very expensive when you run it all the time.

We sprinkle with the water, and it goes on during the day when it is hot, and that being warm water, it's like rain.

**PRESIDENT NORRIS:** What about your outdoor living? We read in the magazines about these barbecue pits, and have you lost all that now?

**MRS. MITTY:** Yes.

**NORRIS:** Where do you eat

the steaks you cook?

**MRS. MITTY:** In the basement. I have a fireplace and we put the charcoal grill in the fireplace and we eat down there. We just don't use it, and haven't in the three years that we have had our air conditioning.

**MRS. WINER:** I have three children with a juke box in the basement, and, of course, it is air conditioned. The whole neighborhood comes in and enjoys the cool air and they dance to their heart's content.

I grill outside and the people eat indoors.

**PRESIDENT NORRIS:** Do you suppose this is going to change some interior designs so that more and more of the barbecue pits will be built into the family room and less outside?

**MRS. WINER:** I am looking for a Ben Franklin stove that I can use in the basement. We have no fireplace, and I would rather not have, with small



MRS. R. C. MACNIDER, Elmhurst, Ill. (r.), "... we didn't have to worry about our daughter at night because of a temperature change. . . ." Mrs. John Linton, Chicago, look on.

children, but I would prefer having that.

There is another thing that no one brought out. Because of air conditioning we don't really need screens. I have a whole stack of aluminum screens at home. We put just one in each room. For my mother-in-law who prefers humid night air, we close her door and her vent and let her open her windows, and we enjoy our cool air.

**MRS. BLEVIT:** I am from Lincolnwood, Ill.

I remember years back everyone used to change their drapes and change the whole house. Then came summer time and now it is completely unnecessary. I find that my house keeps very, very clean. I keep the same drapery and the same type of spreads all year around, and it is amazing how long my draperies stay clean, how dustless my house in general remains.

I don't have any of the problems that other women have with open windows.

**MRS. LAKOUTA:** I just want to ask about something the lady on my left said. My husband asked that I bring this up.

He said if he was going to build a new home—we have five windows in our bedroom—that he would make four permanent windows and only one to open because we put in screens, went to all that additional expense, and we don't open our windows.

**NORRIS:** That can affect the cost of building a house because you will need fewer openable window sections and fewer screens, and that can contribute importantly to financing the air conditioning cost.

**MRS. MITTY:** That brought up a subject. We are building a new home—we have just now put our home on the market—and that will be out in Northbrook. We are putting in seven Thermopanes.

We are going to put in air conditioning, and we have cut out as many windows as we can, opening windows, and putting in Thermopanes so we will have a lot of glass in the house.

(To Be Continued)

## These profit-making benefits sold me on American Blower Packaged Air Conditioners



**SO ACT TODAY!** Start earning those increased profits now! For full information on how you can handle American Blower's 1957 Packaged Air Conditioner line, write: American Blower Division of American-Standard, Detroit 32, Michigan.

**DISTRIBUTORS:** Choice territories are still available. Send for franchise data, today.

**\$** You handle a complete line of packaged air conditioners. Sizes from 3 to 20 tons.

(Lets you bid on any commercial job!)

**\$** Ruggedly designed for years of trouble-free performance.

(Why let service call-backs rob you of your profit margin?)

**\$** All models engineered with you in mind. Easy access to unit through full-size front panels.

(You don't have to be a contortionist to service these air conditioners!)

**\$** Complete customer satisfaction. Units are comfort-engineered for efficient, quiet operation. All-new decorator styling; and a full five-year warranty on the complete refrigeration system.

(The word gets around—it's nice for repeat business!)

**\$** Your sales effort factory-backed with hard-hitting advertising, merchandising aids, sales-training plan, and a flexible co-operative advertising program. All this designed for you by American Blower—a leader in air handling and air conditioning for over 75 years.

(Your prospects are pre-sold—you have a ready-made market!)

**\$\$** Total these advantages—they can add up to many more customer sales and greater net profits.

**AMERICAN BLOWER**

Division of **AMERICAN-STANDARD**



AIR - CONDITIONING EQUIPMENT FOR EVERY BUSINESS

For more information about products advertised on this page use Information Center, page 36.

**PRESTITE**  
#165 Cork Insulation Tape



Anti-Sweat  
Pipe  
Wrapping

**Stops Drip!**

See your wholesaler or WRITE

**PRESTITE-KEYSTONE**  
Engineering Products  
COMPANY

3774 Chouteau Ave. St. Louis, Mo.



## Men on the Move . . .

**Tranter Mfg., Inc.**—Appointment of CLARENCE C. SMITH as engineering director has been announced. He formerly served as design and project engineer for the Flint & Walling Mfg. Co., Inc., Kendallville, Ind., and Duriron Co., Dayton.

DANIEL F. PILLOW has been named manager of the newly-established service department of Kold-Hold Div. He will be in charge of all activities of the department. He has been a sales engineer.

**Trane Co.**—RICHARD "DICK" SCHIEWETZ will be general manager of the new plant at Clarksville, Tenn. He formerly was plant manager of the Scranton, Pa. production units.

**Betz Div., Bohn Aluminum & Brass Corp.**—RAY V. BURDENO has been named Danville, Ill. plant manager. He was formerly assistant plant manager of Bohn's Plant #13 in Adrian, Mich.

**Mueller Climatrol, Div. of Worthington Corp.**—GEORGE D. WOOKEY, Inglewood, Calif., has been named regional sales manager for California, Arizona, and Nevada.

**Crane Co.**—JOSEPH W. GREENE has been elected vice president of sales. He has been industrial sales director.

CHARLES W. LOVELACE, manager of the valve and fitting department, has been named to succeed Greene as director of industrial sales.

C. R. (Ted) BUSHONG has been promoted from manager of the heating department to sales manager of the Lima, Ohio branch.

R. W. ATKINSON, sales manager there previously, has been named manager of the Akron, Ohio branch.

**Ansul Chemical Co.**—STANLEY CLOBRIDGE, formerly divisional manager for C. V. Hill & Co., Inc., has been named refrigeration sales representative for southern Texas, Mississippi, and Louisiana. He will work out of Ansul's Houston office.

**Minneapolis-Honeywell Regulator Co.**—Promotion of five men to new administrative posts has been announced.

JAMES S. LOCKE, sales manager of the commercial division, has been named to the newly-created post of operations manager for the Minneapolis Div.

RALPH W. CRYSLER, manager of the technical section of the commercial division, has been appointed sales manager of that division.

FRED C. BRANDT, southwestern sales region manager, has been named technical services manager.

JEROME F. CUMMISKEY, manager of commercial market sales, has been named assistant manager of sales.

ROBERT L. MALLORY, regional industrial sales manager in Dallas, has been upped to southwestern sales region manager.

**Philco Corp.**—Appointment of ALFRED H. CHATTEN, regional manager of the north Atlantic division, as general manager of the new Elizabeth, N. J. distribution center, has been announced.

HAROLD R. SHEER, who has held executive sales posts in New York, Philadelphia, and Chicago, succeeds Chatten as regional manager-north Atlantic division.

R. J. VAN DOORNEVELT, previously with Frigidaire's engineering department, has been appointed to the advanced engineering staff.

ROBERT M. JONES, director of industrial relations for operations outside the Philadelphia area, has been named to succeed WILLIAM WIGHT, resigned, as director of public relations.

**Dunham-Bush, Inc.**—O. M. "RED" BUTLER, district sales manager for 11 western states, will operate from Riverside, Calif. with his staff to cover the Los Angeles district of southern California.

Arizona, New Mexico, Colorado, eastern Wyoming, and eastern Montana. Sales engineers are: WALLY WICKMAN, JOHN CASTELLO, and JACK BAUER, Los Angeles; GEORGE JACKSON, Phoenix, Ariz.; ROBERT BELL, Denver.

**Westinghouse Electric Supply Co.**—B. H. BOATNER has been elected vice president and general manager of the firm's apparatus and supply division. Formerly manager of that division in the Chicago district, he succeeds M. P. NICKERSON, who will now serve as assistant to the president.

**Heater & Tank Div., John Wood Co.**—MEREDITH L. ADDY, assistant purchasing agent, has been named purchasing agent.

DON GIBSON, sales representative in the Chicago office, has been appointed district sales representative in Cleveland, responsible for coordinating divisional sales and promotional activities.

**Admiral Corp.**—JAMES N. RYAN, JR., assistant to the merchandising director of Emerson Radio & Phonograph Corp., has been appointed regional manager for Rochester, Syracuse, and Buffalo, N. Y., and Youngstown, Ohio.

**Flexonics Corp.**—ROBERT F. BARGE, formerly Cleveland office branch office manager for Goodall Rubber Co., has joined the firm as sales engineer for the Lake Erie and St. Lawrence area, with headquarters in Cleveland.

**Johnson Service Co.**—Appointment of ROBERT H. ANDERSON, sales engineer in Youngstown, Ohio, as manager of the branch there, has been announced.

**Coleman Co., Inc.**—LELAND C. GINN, merchandise manager, has been named manager of the new factory sales branch and warehouse in Dallas. R. B. CHAMBERS is the assistant manager.

**Flexible Tubing Corp.** (Gulfport, Conn.)—EUGENE G. SWARTZ has been named vice president-administration and finance.

CHARLES E. SMITH, recently named factory manager, will have

over-all responsibility for manufacturing operations.

**Catlett-Johnson Corp.** (Richmond, Va.)—RICHARD H. CATLETT, founder, has been promoted from president of the contracting firm, to chairman of the board.

JOHN G. HILDEBRAND, former vice president and general manager, has been promoted to president.

**Welcraft Products Co., Inc.** (New Carlisle, Ind.)—HERBERT O. LEIPOLD has been named president of this heater wire, lead wire, and wire harness assemblies maker. He has been vice president and general manager.

THEODORE BUDECKI becomes vice president and factory manager. He was factory manager.

WOODROW A. BOWMAN, formerly sales engineer for AMP Co., joins the firm as industrial sales manager.

**F. E. Myers & Bro. Co.** (Ashland, Ohio)—Product sales specialists have been assigned territories.

JACOB H. ROEHM and WAYNE

W. HERSHBERGER, JR. will work the product display truck which travels extensively.

ALLAN EDWARD BURT has been assigned to Kitchener, Ont., Can., as water systems and water conditioning sales specialist in eastern Ontario.

ROBERT J. HOAGLAND, Toledo, was assigned as water conditioning specialist for northern Indiana and Michigan.

DENNIS R. WRIGHT, Barberton, Ohio, was assigned as industrial pump specialist in western New York and parts of Pennsylvania, Virginia, and West Virginia.

LAUREL HAGEMAN, Ashland, Ohio, will work the Ohio territory as industrial pump specialist. He was formerly in production control.

F. DOYLE FINDLEY, Jeromesville, Ohio, will operate as water conditioning specialist in New York and Pennsylvania.

NEIL C. TOPPER, Mansfield, Ohio, will cover Illinois and Wisconsin as product specialist for industrial pumps.

## 2 ways to win friends and influence customers...



1 Buy a box at the ball park



2 Sell Marley Aquatowers\*

A good game makes a good impression, but if you want to make a hit that goes down in the customer's record book for years to come, sell him a Marley Aquatower. Nothing you can list under the heading of "Taking Good Care of the Customer" will produce such *lasting satisfaction*—and here's why:

Only in Aquatowers do you and your customers receive assurances of maximum economy, long-lived operation, and positive performance that is *actually backed up by thousands upon thousands of installations in the field.*

Only in Aquatowers do you and your customers get the benefit of 35 years of cooling

tower engineering and production know-how—*plus* such ahead-of-the-times features as heavy steel casing . . . more-than-adequate filling . . . plus-performance diffusion deck . . . long-life mechanical equipment designed by the tower manufacturer.

Add to this that Aquatowers are readily available from service-minded Marley suppliers in 300 cities . . . that they are guaranteed by the world's leading producer of packaged cooling towers—and you can readily see why the majority of contractors have adopted the "Aquatower approach" to customer good will! Why not see your nearby Marley supplier soon?

\*Trademark Reg.



**The Marley Company**

Kansas City, Missouri



## What's New

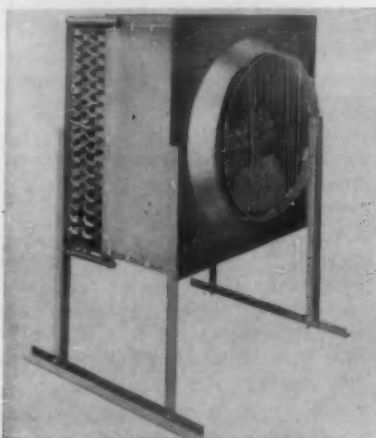
### Air-Cooled Condenser Has Balanced Circuiting

—KEY NO. G-6212—

LOS ANGELES—A new product, the "Dricon" air-cooled condenser featuring balanced circuiting, has been released by the Recold Corp. here.

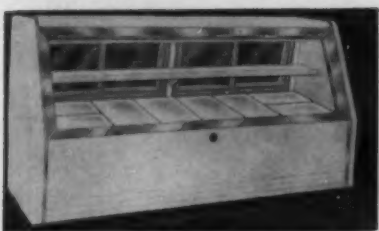
Recold's circuiting increases the efficiency of the condenser coil. Ordinarily air-cooled condensers are headered across the top and bottom, which means that there is a greater temperature difference between air and refrigerant at the first row of coils than the last. Consequently the first row will tend to fill up with liquid while the last row has much less capacity. By crossing the circuits, Recold claims it balances the amount of work done by each circuit, thereby increasing the efficiency of the coil.

Other features of Recold's new "Dricon" air-cooled condenser include the adjustable angle iron stand furnished on all units, the



large slow-speed belt-driven fans, galvanized housing, copper tube aluminum fin coils, strong fan guard, precision ground shaft, self-aligning ball bearings, motor located inside unit for weather protection.

### Display Cases Maintain Minimum Moisture Loss



—KEY NO. G-6213—

MT. VERNON, N. Y.—New meat and delicatessen refrigerator cases have been announced by Evans Mfg. Corp. here.

Consistent interior temperature is coupled with automatic humidity control to maintain minimum moisture loss and meat shrinkage, the manufacturer claims. The

keyed humidity system prevents fading color and keeps meat red.

Constructed of heavy gauge steel, cases are finished inside and out with white porcelain trimmed in stainless steel. Full-vision triple-glass allows customer to view all products while interior temperature is maintained by three, specially-placed refrigerator coils.

Meat case model EM-8 has two large shelves and 3 rear doors for easy access, while delicatessen case ED-8 has three shelves for product display, it was pointed out.

Both remote cases are available in 6, 8, and 10-ft. lengths. Meat case is 50-in. high and 36-in. deep. Delicatessen case is 54-in. high and 36-in. deep.

### Mobile 'Comfort-Aire' Has 8½-Qt. Capacity

—KEY NO. G-6214—

JACKSON, Mich.—A dehumidifier which is claimed to draw up to three gallons of moisture from the air every day was recently developed here by Heat Controller, Inc.

Called the "Comfort-Aire," the mobile unit is 18 by 12 by 18 in., lightweight, has 8½-qt. capacity. A removable styrene pail keeps the plug-in unit from retaining condensation and rusting. There is a permanent ½-in. OD drain tube for connecting a shower hose. It has a list price of \$119.95 and comes with a five-year warranty on the refrigeration system.

Cabinet is of 20-gauge furniture steel with baked Centurian gray and Banner blue mar-resistant finish and has a rubber bumper molding. Four large free-swivel casters permit it to roll anywhere, the manufacturer said.

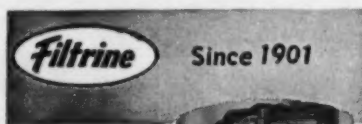
### Simpson Offers 'Low-Ohm-Meter'

—KEY NO. G-6215—

CHICAGO—A new ohmmeter, which features accurate measurements of low-resistance values and utilizes low-circuit currents, has been announced by the Simpson Electric Co. here.

Called "Low-Ohm-Meter," model 362, the new tester gives readings from 0.1 to 25 ohms with an accuracy of 3% of the full scale value, the firm claims. This is attained by using the expanded scale of the suppressed-infinity shunt type ohmmeter.

Model 362 uses one, self-contained battery (type "C," 1½ v.) for its power source. Ranges are 0-5 ohms and 0-25 ohms. Over-all size is 3 by 5½ by 2½ in. Price, complete with calibrated test leads, is \$24.95.



**Tank Type WATER COOLERS**

- ◆ Extra-large storage
- ◆ Safety from freeze-up
- ◆ Fast hourly recovery
- ◆ 20-year life construction

Capacities: 5 to 500 g.p.h.  
Storage: 2 to 240 gals.

Water coolers for all uses factory-packaged with your condensing unit. Write for literature.

**FILTRINE MFG. COMPANY**  
218 W. PROSPECT ST. • WALDWICK, N. J.

### Dispenser Serves Three Different Drinks

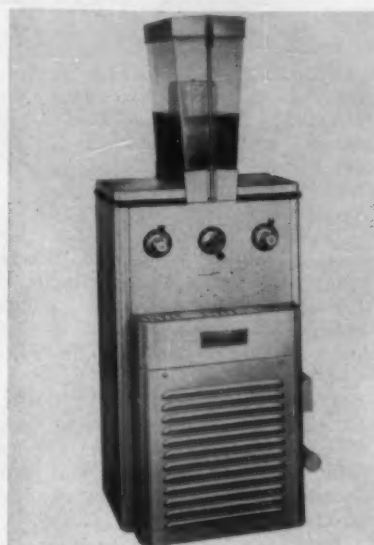
—KEY NO. G-6216—

CHICAGO—A. Dalkin Co., a division of American Machine & Foundry Co., has introduced the new "AMF-ADCO" drink dispenser.

The new "Pre-mix" display features animation and illumination, with a non-carbonated beverage flowing over an illuminated, simulated block of ice, it was explained. An "Easy-Fill" color measure tells at a glance when to refill and exactly how much to add.

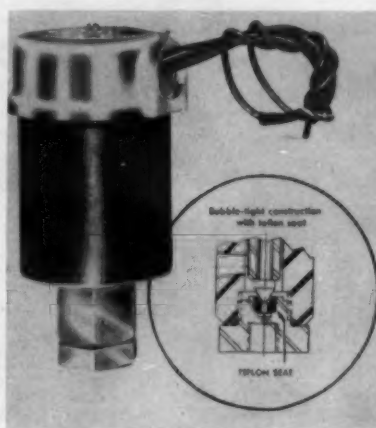
Continuous-flow, fast-draw faucets make it possible to draw any size drinks, the company said. Three different drinks can be served—one non-carbonated and two carbonated beverages. Unit has 12-gal. capacity for non-carbonated beverage, and approximately 3 gal. of syrup stored on each side for carbonated beverages.

Made entirely of stainless steel



—all parts are easily removed for cleaning. Unit's dimensions are: height, 70 in.; width, 25 in.; depth, 23 in.

### Solenoid Valve Is Bubble-Tight at 5,000 P.S.I.



helium, nitrogen, and carbon dioxide.

Type SBTDW is suited to applications where high pressure is combined with relatively little flow. Its direct lift action provides instantaneous opening and closing even with viscous fluids.

Pipe sizes are ½ in. and ¾ in. with ¼, ½, ¾, or 1 in. port sizes. Port size is determined by maximum pressure applied plus fluid viscosity; 5,000 p.s.i. rating, for example, is for air or gases with ¼ in. port.

### Disposable Cylinder Handles Refrigerants

—KEY NO. G-6218—

N. TONAWANDA, N. Y.—A new 132-cu. in. disposable cylinder for handling refrigerants and other aerosols and compressed gases has been added to the line of 55 and 75-cu. in. industrial size disposable containers manufactured by the Tube Manifold Corp.

These cylinders measure 4 in. diameter by 12 in. length and have 5-lb. capacity.

## Information Center

For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

**Products Advertised**  
(list name, page, and issue date)

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## EXCLUSIVE NEW KMP KAP-KIT

...the Complete Capillary Replacement Assembly

Plus STRAINER-CAPILLARY  
FAMOUS KENMORE  
MOISTURE MAGNET® DRIER  
...ALL IN ONE UNIT

- NO GUESSWORK... NO CUTTING
- PROPER CAPILLARY FOR UNIT SPECIFIED
- AMPLE CAPACITY MESH STRAINER AT INLET
- PLUS KMP MOISTURE MAGNET

**Now** KMP KAP-KIT gives servicemen a complete, tailored assembly for replacement in the field... the proper size drier for the capillary. KMP KAP-KIT provides precision metering control for all refrigerants and has the drier in the proper location used by all leading manufacturers—*The LOW SIDE*. When drier is placed in refrigerated position at the end of the capillary, desiccant adsorbs *more* moisture and, more important, *retains* the moisture. Insist on Exclusive KMP KAP-KIT... a strainer assembly, Moisture Magnet of spun copper (in all popular sizes), plus flare nuts and bonnets... uniformly produced at lowest cost.

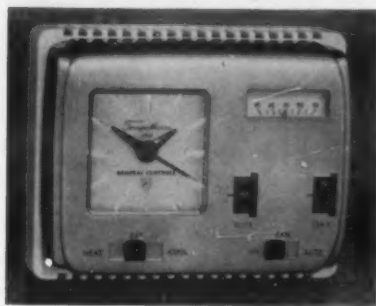
Write today for information and prices.

**KMP**

KENMORE MACHINE PRODUCTS, INC.  
LYONS, NEW YORK

U.S. Patents RE. 22,465 and 2,430,692





## Thermostat Control Is Fully Automatic

—KEY NO. G-6219—

GLENDAL, Calif.—Engineered to develop the full potential of modern day air conditioning installations, the new General Controls Co. "Tempotherm 365" thermostat provides completely automatic clock thermostat control of both heating and cooling functions with automatic night setback and morning pickup for each, it was announced.

Lowered night setback on the cooling side permits the homeowner better humidity control and helps to offset the load of maximum daytime temperature by storing cooling capacity with resultant unit operating economy, the firm said.

Tempotherm 365 functions 12 months a year. All dials and switches on the front of the highly styled, life-time satin stainless steel case are designed to protect walls and woodwork from finger smudge. This newest of new thermostats adapts readily to most standard heating and cooling air conditioning systems.



## 'Speed Clip' Attaches Electrical Wiring

—KEY NO. G-6220—

CLEVELAND—A new, twin U-type "Speed Clip," developed for the attachment of electrical wiring on household appliances, electronic equipment and other products was recently announced by Tinnerman Products, Inc.

Employing a heel-and-toe principle of self-retention, the new Speed Clip is front-mounting and eliminates the need for nuts, bolts, or auxiliary fastening devices, it was stated.

For use in hard-to-reach locations, the new clip's spring steel "toe" is merely inserted into a mounting hole in a panel and with slight finger pressure down and forward the clip naps into wire-receiving position. Electrical wires, firmly secured by twin spring steel fingers, can be removed for servicing or replacement without detaching the clip, it was further noted.

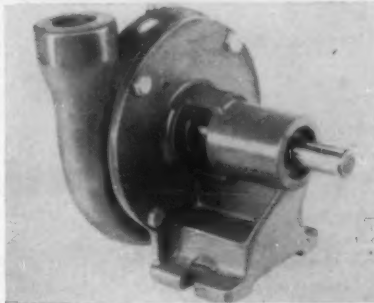
## Centrifugal Pump Features Minimum Upkeep

—KEY NO. G-6221—

SONOMA, Calif.—E. L. Price Pump Co. recently introduced a new general purpose centrifugal pump dubbed "Pryco."

Increased life and minimum maintenance are claimed built-in features of the pump. There are no grease fittings or packing gland to service after installation, it was stated. Impeller is securely screwed on the threaded shaft which cannot work loose or get out of adjustment, the company said.

Features include: double ball bearings; mechanical shaft seals;



heavy duty construction; lifetime lubrication; all-iron construction; and increased head and volume.

## Calculator Helps Figure Pipe Friction Loss

—KEY NO. G-6222—

MILWAUKEE—A handy pocket slide calculator for figuring water pipe and paper stock pipe friction losses has been developed by Allis-Chalmers Mfg. Co.

Data for computing water pipe friction loss are based on standards of the Hydraulic Institute

and appear on one side of the calculator while those for determining paper stock pipe friction loss are on the other side. The latter are based on test data obtained by Allis-Chalmers and adapted by the Hydraulic Institute for handling Canadian sulphite and ground wood raw stocks.

## Piston-Driven Fastening Tool Introduced

—KEY NO. G-6223—

PITTSBURGH—Industry's first piston-driven, powder-actuated fastening tool, Velocity Power Tool Co.'s stud hammer, is now on the market.

Safe and economical fastening of wood or sheet metal to concrete is now possible because of the new tool, the firm said.

The new tool can be used for attaching conduit boxes, pipe straps, door bucks, window frames, furring strips, heating ducts, partitions, panel boxes, metal and wooden signs to buildings; carpets to concrete flooring; and highway dividing markers, and other wood or sheet metal articles to concrete.

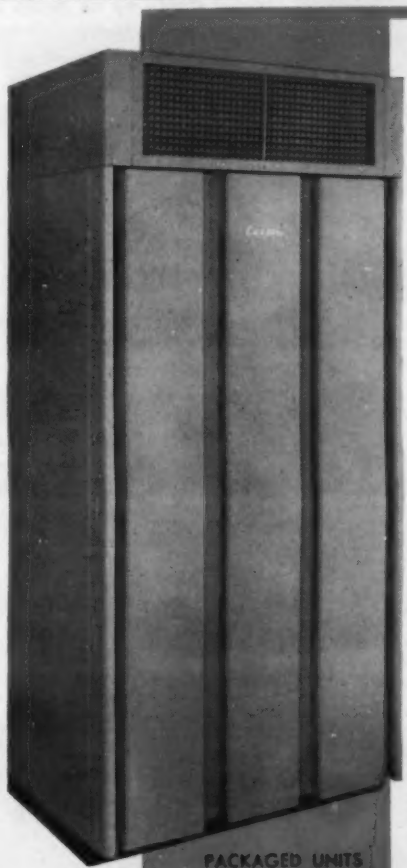
VP Stud Hammer, firing a blank cartridge, can drive a specially developed nail stud through wood objects or through sheet metal, firmly anchoring the object to concrete.

Ricocheting is prevented because the nail stud is pushed into the work surface.

There are three nail stud sizes,



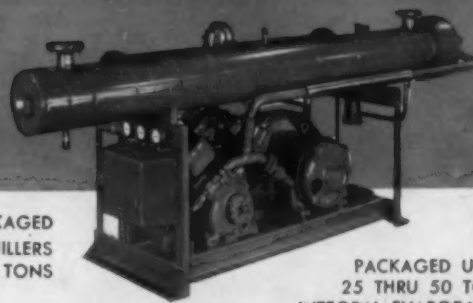
1 1/4, 1 1/2, and 2 1/4 in. in length. Only one type and load of cartridge is used. Depth of nail stud penetration is controlled by a simple setting of the power adjustment ring on the barrel.



PACKAGED UNITS  
3 THRU 20 TONS



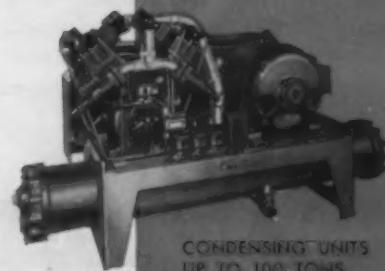
PACKAGED AIR  
COOLED UNITS  
UP TO 7 1/2 TONS



PACKAGED  
LIQUID CHILLERS  
UP TO 100 TONS



PACKAGED UNITS  
25 THRU 50 TONS  
INTEGRAL EVAPORATIVE  
CONDENSER OPTIONAL



CONDENSING UNITS  
UP TO 100 TONS

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## MAY BE THE ANSWER!

Curtis has been in business for 103 years and through experience has learned how to maintain a mutually profitable relationship with our franchise holders. Curtis equipment is competitively priced, quality built, and nationally advertised.

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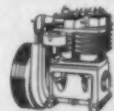
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CAN COUNT ON  
REMEMBER...  
YOU

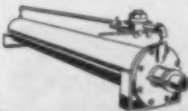
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OUR 103rd YEAR  
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REFRIGERATION DIVISION  
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AIR COMPRESSOR



AIR HOISTS  
AIR CYLINDERS



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**NOLIN**  
*Moisturizer*  
VEGETABLE CASE

AVAILABLE IN  
5' - 8' - 10' SIZES

If It's Not a NOLIN, It's Not a MOISTURIZER

**NOLIN** MANUFACTURING COMPANY  
1400 LLOYD ST. PH. 3-4454  
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## Humidity Test Chamber Covers 0 to 200° F.

**KEY NO. G-6224**  
BROOKLYN—A new close control tolerance humidity test chamber which stimulates environmental conditions throughout the temperature range of 0° F. to 200° F. and 5% to 98% relative humidity was recently offered by

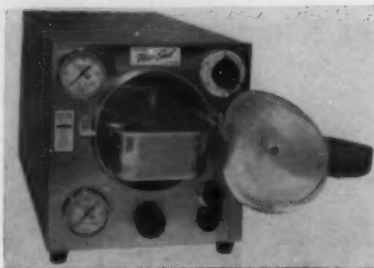
Environmental Equipment Co. Controls include 12-in. diameter wet and dry-bulb recorder, controller, programmer. Better than  $\pm 2^\circ$  F. control tolerance is maintained, it was stated.

Model H8 has a test volume of 8 cu. ft. and interior dimensions are 30 in. wide by 20 in. deep by 24 in. high. Low air velocities are maintained throughout the test space, it was added.

## Counter Speed Cooker Developed

**KEY NO. G-6225**  
CHICAGO — A counter model "Flex-Seal" speed cooker is now produced by Vischer Products Co. Multiple custom built models will also be available, according to the company, with from one to five individual cooking units.

The counter model is 12 by 12 by 22-in., complete with automatic electric steam generator, or for direct steam operation as required, it was explained. The speed cooker is said to remove the human error



from cooking with automatic timing controls.

A standard institutional package of frozen vegetables can be cooked in 4-5 minutes without defrosting, it was claimed. Any type of fresh or frozen food can be cooked in the unit.

Only steam enters the cooker and just 4-5 oz. of water is fed the generator automatically at each cooking cycle. Temperatures reach 15 p.s.i. at 250° F. in about one minute, all automatically controlled through the timer, the company stated.

Made entirely of stainless steel, the unit has a safety self-sealing door designed to eliminate steam hazards.

## Circular Gas-Fired Convection Heater Offered

**KEY NO. G-6226**  
COLUMBUS, Ohio—A pressurized model 360 circular design gas fired overhead forced convection heater with 115,000 B.t.u.h. has been announced by Norman Products Co., Inc. here.

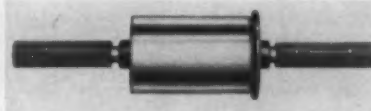
It features a patented sealed combustion system with an automatic electric ignition, making operation of the heater completely independent of room air and eliminating the problems of pilot outage, the maker says.

Combustion air is drawn from outside the building through a separate inlet pipe and exhaust gases are vented to the outside



through a parallel separate pipe. Unit is designed for full 360° air distribution into areas where flame is not to be exposed to atmosphere.

## Tool Said To Cut Lockseaming Time 80%



**KEY NO. G-6227**  
TREVISO, Pa. — A tool that cuts lock seaming time of sheet metal ducts by as much as 80%—that assures the making of a perfect seam every time without wrinkles or unevenness, and that does its work without noise, are the merits claimed for the noiseless hammer made by Bell Machine Specialties.

Designed for use by sheet metal mechanics for Pittsburgh lock-

seaming of metal ducts when effecting installations of air conditioning and heating equipment, the tool will effectively handle any light gauge sheet metal ducts of 26-gauge steel or .032-in. aluminum, it was stated.

Entire tool is 14 in. long, weighs about 4½ lbs., and is designed for easy and convenient portable hand operation. No electricity or other power required. It consists of a flattening barrel of seamless steel tubing that rolls on a steel shaft with rubber hand grips. Cast iron bearings assure long life.

Unit does complete inserting, folding, and flattening in three simple rolling operations.

## Compact Forced Air Furnaces Save Floor Space

**KEY NO. G-6228**  
PASADENA, Calif. — A new forced air furnace line was recently announced here by Holly-General Co., Div. of Siegler Corp.

Designed as part of a year-round air conditioning system, models are claimed to save floor space. The Holly furnace has by-passes to 100,000 B.t.u. unit is 16 in. wide by 58½ in. high. Four air velocity is maintained over the models from 70,000

through 100,000 B.t.u. use the same size plenum, reducing inventory problems on these sizes.

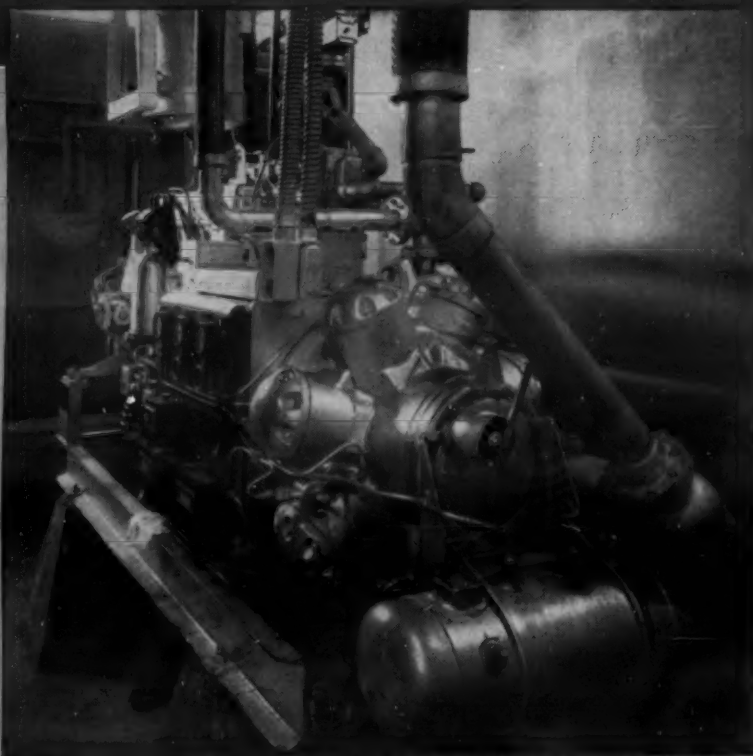
Covering sizes from 55,000 to 180,000 B.t.u. in both upflow and counterflow, all units from 70,000 to 140,000 are able to handle 2 or 3 tons of refrigeration, the company stated. A 5-ton unit is recommended on larger furnaces. Sized to the heating load, the Holly furnace has by-passes to handle extra air volume needed for air conditioning. A constant heating element.

# Call For Ready-Power NATURAL GAS Air Conditioning

- and give your customers all these advantages:
- economical Natural Gas fuel
  - low, low operating costs
  - continuous, variable speed operation
  - close temperature and humidity control
  - automatic controls
  - thermostat or push-button start

Fuel cost  
less than  
**1¢**  
per ton-hour

based on gas at  
60c per 1000 cu. ft.



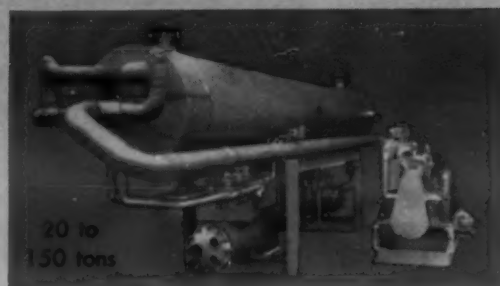
76 Ton Installation at a Country Club—St. Paul, Minnesota

Ready-Power Air Conditioning Units offer every advantage of automatic air conditioning—at lowest operating costs. Designed to operate efficiently on economical natural gas, Ready-Power Air Conditioning Units feature a unique system of capacity modulation for high efficiency continuous cooling.

Automatic controls allow continuous operation at varying speeds to meet all weather conditions and load requirements. This assures precise control of both temperature and humidity and maximum operating economy at all times.

Ready-Power Air Conditioning Units are adaptable to new or existing installations in sizes up to 76 ton. Multiple units of more than 150 ton capacity have proved highly successful.

Write for complete information.



Matched "Chiller Packages" are now available for all models. Factory piped, wired and tested, these Ready-Power "Packages" give you completely integrated refrigerant systems, require a minimum of installation work, reduce costs.

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Manufacturers of Gas and Diesel Engine Driven Generators and Air Conditioning Units; Gas and Diesel Electric Power Units for Industrial Trucks

## NEW Designs and Features! P-H REFRIGERATORS and FREEZERS



MODEL P 40-2  
Self-Contained



MODEL SA 15-15  
Two-Temperature  
Refrigerator

Important features of the newly styled and completely redesigned P-H line of commercial refrigerators and freezers include:

- ☆ Genuine Porcelain or Stainless Steel Finish.
- ☆ Exclusive "Grad-U-Matic" Self-Defrosting Air Conditioning.
- ☆ Tubular Electric-Welded Steel Frames.
- ☆ Heavy Fiberglass Insulation.
- ☆ Solid or Triple Thermopane Doors.
- ☆ Self-Contained or Remote Control.



MODEL P 46-3  
Self-Contained

UL  
APPROVED

Also AVAILABLE — A complete line of Reach-In, Pass-Thru and Salad Refrigerators . . . Upright Storage Freezers . . . Baker's Freezers and Dough Retarders . . . Dairy-Delicatessen Cases . . . Two-Temperature Refrigerators . . . 22 to 96 Cu. Ft. Capacities . . . Dry Beverage Coolers . . . and Walk-In Coolers and Freezers.



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GRAND HAVEN, MICHIGAN

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**Booklet Explains Ice Machine Use**

—KEY NO. S-620—

ALBERT LEA, Minn.—"How To Use an Ice Machine," a 44-page booklet written for commercial users of ice, is offered free by the Scotsman Div. of American Gas Machine Co.

This fully illustrated booklet explains the practical applications of ice and the compact automatic machines that make it. It points out the benefits of machine-made ice to the user and explains how an automatic unit makes ice by telling the reader what goes on inside the machine.

Twenty pages are devoted to the uses of ice in dozens of various fields and businesses where automatic ice machines are now serving as convenient profit builders through substantial reduction in the cost of ice.

**Outlines Year-Round Water Conditioning**

—KEY NO. S-621—

MORTON GROVE, Ill.—A 16-page booklet was recently published by Bell & Gossett Co. here explaining "Year-Round Comfort with Water for Heating and Cooling."

Essentially a consumer guide-book, it has many illustrations to help the reader visualize the varied applications of circulated water in his home.

**Gas Industry's Growth Pictured**

—KEY NO. S-622—

NEW YORK CITY—A capsule picture of the sweeping changes that have transformed the gas business into one of America's largest and fastest-growing industries is contained in an illustrated booklet, "Meet the New Gas Industry."

Produced under the PAR Public Information Program of American Gas Association, Meet the New Gas Industry is an all-purpose publication crammed with interesting facts about gas.

The booklet is suitable for employees, students, civic and business organizations, newspaper editors, stockholders, and other opinion-forming groups. It is a successor to the "A New Look at the Gas Industry," which is now out of print.

**Cabinet Convector Guide Published**

—KEY NO. S-623—

WEST HARTFORD, Conn.—Dunham-Bush, Inc. here recently offered a 28-page data guide on code rated cabinet convectors for steam and hot water heating systems.

Detailing the firm's convector cabinet design and construction features, the brochure makes use of more than 100 photographs and schematic drawings. Technical data for the full D-B convector line covers floor, sloping-type floor, wall, sloping top wall, recessed, semi-recessed, extra length, picture window, front type, institutional type, and end compartment cabinet convectors.

Hot water capacity statistical tables, miscellaneous capacity data, and typical piping arrangements for hot water and steam systems are also given.

**Offers Metal Working Machinery Catalog**

—KEY NO. S-624—

CARLSTADT, N. J.—"Metal Working Machinery" catalog No. 26, with 68 illustrated pages has just been issued by Julius Blum & Co., Inc.

This catalog, with hundreds of

illustrations, describes a wide variety of shop equipment and supplies, with special emphasis on the requirements of a small and medium size metal fabricators. Subjects covered include equipment for bending, grinding, punching, shearing, sawing, welding, forging, drilling, tapping, threading, notching, and materials handling.

Catalog describes the products of many nationally established manufacturers, including several items designed and built especially for Julius Blum & Co. Among these are a bar twisting machine, a line of punching and angle shearing machines for structural and miscellaneous steel fabrication, a power driven hydraulic press for bending, straightening, etc.

Also included are many new pieces of equipment, some of which have not previously been shown in any catalog. Among these are a motor-driven scroll bender, a hydraulic punch and angle shear, and a line of multiple purpose, insert gas, and metallic arc a.c.-d.c. welders.

**Data Book Covers Detecting Elements**

—KEY NO. S-625—

AKRON, Ohio—Franklin Dales Co. recently issued an eight-page engineering data book which covers sensitive detecting elements used on motors, cycling systems, and safety devices in electrical appliances.

Actual size illustrations, specifications, and engineering data on all standard models made by the firm are included, it was indicated.

**Bulletin Describes New Cooling Towers**

—KEY NO. S-626—

PITTSBURGH—Halstead & Mitchell's new bulletin on centrifugal fan cooling towers describes the company's (type WB) standard and (type KB) take-apart units, the manufacturer announced.

Designed to conserve up to 95% of cooling water used in air condi-

tioning and refrigeration applications, these are primarily indoor cooling towers. The H & M centrifugal fan maintains an even air flow, even through long ductwork runs where high resistance is normally a problem. An added incentive for indoor use is the ultra-quiet operation of this kind of fan as opposed to the more usual propeller.

An interesting optional feature is found in the type KB units—the take-aparts. These cooling towers can be dismantled for installation in difficult places. The take-apart feature is not standard but may be ordered as an optional extra.

The new literature—bulletin CF-600—describes the construction of the towers, including the wetted deck surface, water distribution, fans, motor, housing, and drive, the company explained.

Tables are devoted to sump capacities in gallons, operating and dimensional data and space requirements with weights per section, the report further pointed out.

**Recold Catalogs Water Defrost Ceiling Coils**

—KEY NO. S-627—

LOS ANGELES—A new catalog on the Recold water defrost ceiling coils (2C6a) has just been issued by the manufacturer, Recold Corp.

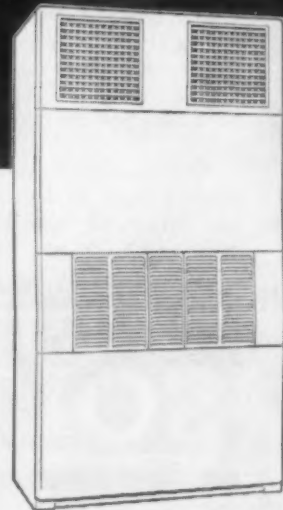
One of the most important additions to the new literature on the water defrost ceiling coils is the inclusion of dimensional and specification data on the Recold AS-3100 LT, the 5-ton ammonia coil.

Other information added to the new catalog includes data on sizes of accumulators for use with flooded ammonia ceiling units; dimensional changes showing the pitched drain pan now used in all Recold units; changes in the heat exchanger dimensions.

Graphic illustrations in the catalog demonstrate outstanding features of the units, found only in Recold water defrost coils, such as manual or automatic defrosting; "Bulls-Eye" water level indicator; motor overload protector; Recold mercoild float.

# DETROIT NO. 714

## AIR CONDITIONING EXPANSION VALVES



### ★ Broad Range of Application

2 to 10 tons—12—3 to 17 tons—22

### ★ Sweat Connection Sizes

Inlet 1/2" to 3/8" O.D.—Outlet 3/8" to 1 1/8" O.D.

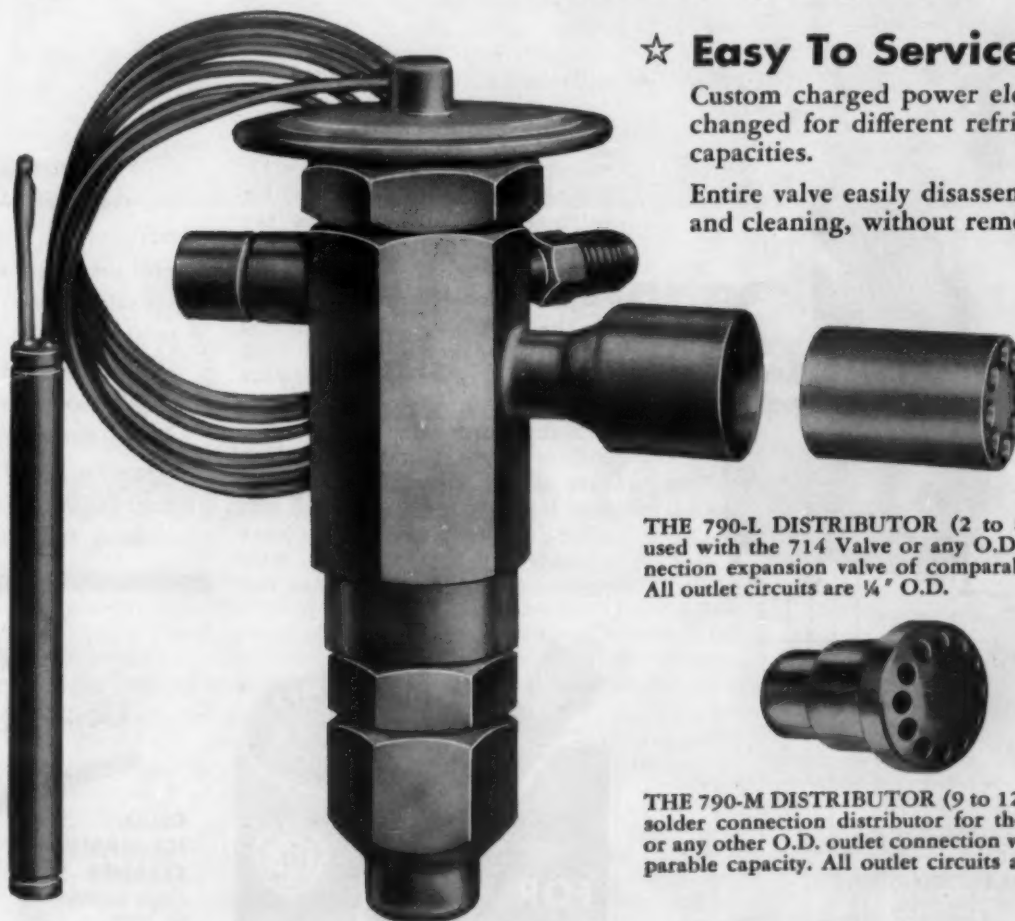
### ★ "G" Charge Level Action Feeler Bulb

Minimizes surge for very close superheat control and maximum valve operating efficiency.

### ★ Easy To Service

Custom charged power elements can be interchanged for different refrigerants and various capacities.

Entire valve easily disassembled for inspection and cleaning, without removing from the line.



THE 790-L DISTRIBUTOR (2 to 8 passes) is used with the 714 Valve or any O.D. outlet connection expansion valve of comparable capacity. All outlet circuits are 1/4" O.D.

THE 790-M DISTRIBUTOR (9 to 12 passes) is a solder connection distributor for the 714 Valve or any other O.D. outlet connection valve of comparable capacity. All outlet circuits are 1/4" O.D.

Also available with other Detroit custom charges; "C" for commercial, "Z" for low temperature.



5900 Trumbull Avenue  
Detroit 8, Michigan

**DETROIT CONTROLS**  
CORPORATION

Division of AMERICAN-STANDARD



Canadian Representatives: RAILWAY AND ENGINEERING SPECIALTIES LTD., Montreal, Toronto, Winnipeg

For more information about products advertised on this page use Information Center, page 36.



# SOLDERS, FLUXES

## Part 2—How To Use

By Frank J. Versagi  
Mueller Brass Co., Port Huron, Mich.

Which solder should be used for specific jobs? Is brazing better than soft soldering? What is the effect of soldering temperatures on the structure and hardness of the metal being joined?

Almost anyone can handle a torch and join some fittings and tube. But knowing the answers to questions like these can make the difference between a good job and one that will mean a call back within a few weeks or months because of a defective joint.

In picking a solder, here are the things to consider:

1. Kind of metals to be joined.
2. Strength required of the

joint.

3. Service conditions (temperature and pressure at which joint will be used).

4. Possible corrosive conditions to which joint may be subjected.

5. Clearance between parts being joined.

6. Accessibility for heating and application of solder.

Most solders are general purpose; they can be used for most metals, both ferrous and non-ferrous. However, if a difficult combination is to be made, such as aluminum to copper, it is best to obtain the specially recommended materials and follow the instructions of the suppliers.

Also to be considered is the effect of soldering or brazing temperatures on the materials being joined. For example, it is impossible to braze copper and copper alloys without heating the work so high that the base metals are not annealed. The end use of the joint may make such annealing, or the lack of it, extremely important.

Further, in brazing copper, the high temperatures tend to oxidize and blacken the copper considerably beyond the area protected by flux. Where this black scale must be avoided, preventive action must be taken.

One method is to force natural gas through the line, burning it at the outlet. The burning gas prevents any oxide formation inside the tube.

### Determine Actual Use

When considering the strength required of the joint, the actual end use must be determined. Generally, soft solders are not nearly as strong as the hard solders or brazing alloys. Fifty-fifty is a general purpose alloy; it can be used in cold and hot water lines and in most plumbing. Ninety-five-five is used in low-pressure steam lines where 50-50 would fail.

Hard solders are used where great strength is required or where working temperatures are such that soft solders are not suitable. Although the unit strength of the soft solders is less than that of hard solders, this can be partially offset by using greater solder area.

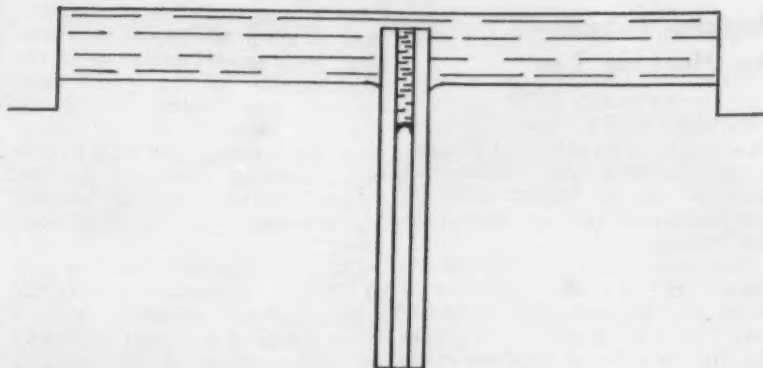
In fact, standard solder cup lengths on copper fittings are far in excess of what is needed if brazing alloys are used. In such cases, fills of only 1/4 in. are needed to obtain full strength.

Sometimes the end use of the joint will subject the alloy to corrosive conditions which must be considered. Most copper water service and plumbing, for example, can be safely soldered with 50-50 or 40-60.

### 95-5 Recommended

But, using the same style fittings, 95-5 is recommended for refrigeration work because the atmosphere near refrigerators is usually damp and high in carbon dioxide. Wet carbon dioxide forms carbonic acid which attacks the lead in high lead solders weakening the joint.

Many times the choice of a soft or hard solder is based on ease of working, with no particular thought for the end use where either will do. We have already discussed how wide plastic range brazing alloys can



CAPILLARY ACTION: The edges of the liquid creep up the walls. The forces holding the liquid together then pull the main body of the fluid up to join the edges. The process is repeated indefinitely.

be used to strengthen sloppy joints where clearances are excessive.

Another case would be large fittings which require a large amount of heat. It is much easier in such instances to use a soft solder than a brazing alloy.

Similarly, if the alloy is inconveniently located and only accessible from one side, the high temperature torch needed in brazing might well destroy the fitting before the entire joint was brought up to temperature.

The clearance or tolerances between the tube and the fittings are important for another reason. When the fit is just right, the solder flows into the joint (even upward, against gravity) by a process known as capillary action.

This capillary action depends upon a tight fit for its function; too large an opening and the solder has to be "poured" in.

It will not flow in on its own.

One way to demonstrate this principle is to get two flat pieces of window glass about an inch wide and several inches long. Clean them thoroughly and place them face to face. Insert one end into a jar or dish containing red ink. In a few minutes, the ink will have traveled up between the glasses for several inches.

(Continued on next page)

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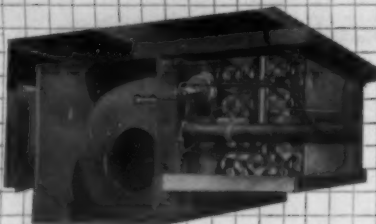
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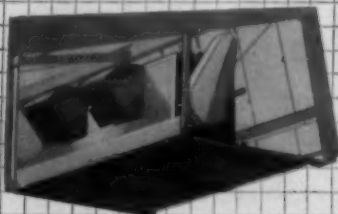
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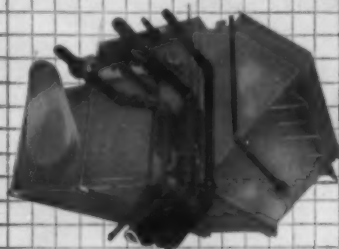
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## Solders --

(Continued from preceding page)  
eral inches, against the pull of gravity.

The same thing will happen with a very small diameter glass tube. A beautiful pattern can be formed by placing one end of a stalk of celery in ink.

Complete cleanliness is necessary for capillary action to be fully effective. If there is any dirt between the glasses or in the tube, the ink will by-pass the dirty areas, not wetting the surface at all.

Simply, here is how capillary action takes place. The walls of the tube are wetted by the liquid and the outer edges of the liquid creep up the walls slightly. When these edges have risen above the normal level, the forces holding the liquid together pull the main body of the fluid upward. The edges then creep up further, and the process is repeated indefinitely.

The same sort of thing happens in the close clearance between a properly mated fitting and tube. The molten solder works its way into the joint completely filling it unless there are dirty areas which the solder must by-pass. In this case, the joint will be weakened since the all-important bonding strength cannot take effect at such areas.

In a correctly fitted and clean joint, the bonding strength of the amount of solder pulled in by capillary action is sufficient to take care of any use for which the materials were properly chosen.

We have briefly discussed the basic physical principles behind solders and soldered joints. Knowledge of wetting, bonding strength, thermal properties, capillary action, and eutectic alloys will help us to evaluate properly the recommended soldering procedures which will be discussed in the next article.

Hand in hand with these physical principles go the chemical principles involved in fluxing. In our next article we will also look at the basic functions of fluxes and examine the several types available.

(To Be Continued)

## 'Death Trap' Claims Two Little Girls

CAMPBELL, N. Y.—The lifeless bodies of two young sisters were found in a closed refrigerator on a patio of their home.

State Police said the little girls apparently suffocated when the refrigerator door swung shut on them while they were playing in it. They said the interior showed signs of a struggle by the children.

Dead were Kathleen Taft, 6, and her sister, Margie, 4, two of five children of Mr. and Mrs. Norman Taft.

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## Radio System Cuts Air Conditioning Dealer's 24-Hour Repair Operation 35%

DENVER—A 35% saving in operation of a 24-hour repair service on home air conditioning systems, plus far better operating efficiency throughout, are results which have been obtained with installations of six two-way, ultra-high frequency radio systems at Paul Walden, Inc., Chrysler Airtemp air conditioning dealer here.

Five of the sets are mounted in new red and white service trucks and the other at Walden's shop on W. 12th Ave.

Paul Walden, head of the firm, has invested \$106 per month in the microwave equipment, which, through its extreme high frequency, penetrates bad weather, other radio channels, etc., for "clear" reception.

Through a multiple hook up

of microphones and mixer, Walden, either of two refrigeration engineers, and the service dispatcher, plus the mechanic himself, can confer on the same circuit at the same time.

Chief benefits derived from the installation have been doing away with wasted miles in servicing home air conditioning systems in the same area, elimination of return trips for tools and equipment, plus the ability to diagnose and solve installation problems "over the air" at once, according to Walden.

### Women To Convene

DETROIT—Members of the Electrical Women's Round Table, Inc. will hold their annual conference in St. Louis on Friday, June 21, at the Chase hotel.

## ARW Region 7 To Gather June 28-29

TOPEKA, Kan. — Midwest Region 7, Air Conditioning & Refrigeration Wholesalers, will hold a meeting at Glenwood Springs, Colo., June 28 and 29, it was announced.

The group will register at the Oxford hotel, Denver, for Wednesday night, June 26.

A cocktail party will be given Wednesday evening from 5:30 to 7 on the roof of the Sherman Plaza hotel, courtesy of Thermo Supply Co. and McCombs Supply Co. This will be followed by a get-together dinner at 7:30 in the dining room of the same hotel.

A special "Vista-Dome" train leaves at 9 a.m. Thursday for Glenwood Springs, arriving at 8:27 p.m. The party will stay at the Colorado hotel there.

Friday's program will feature

talks by Arley Baker, Alco Valve Co., "Make it Your Story," L. C. McKesson, Ansul Chemical Co. (topic to be announced), and Joe Fagans, American Potash & Chemical Corp., "Capital and Credits."

A group luncheon is scheduled for noon on Friday, followed by an open meeting from 2 to 5, cocktail party from 6 to 7, and a group dinner at 7, it was pointed out.

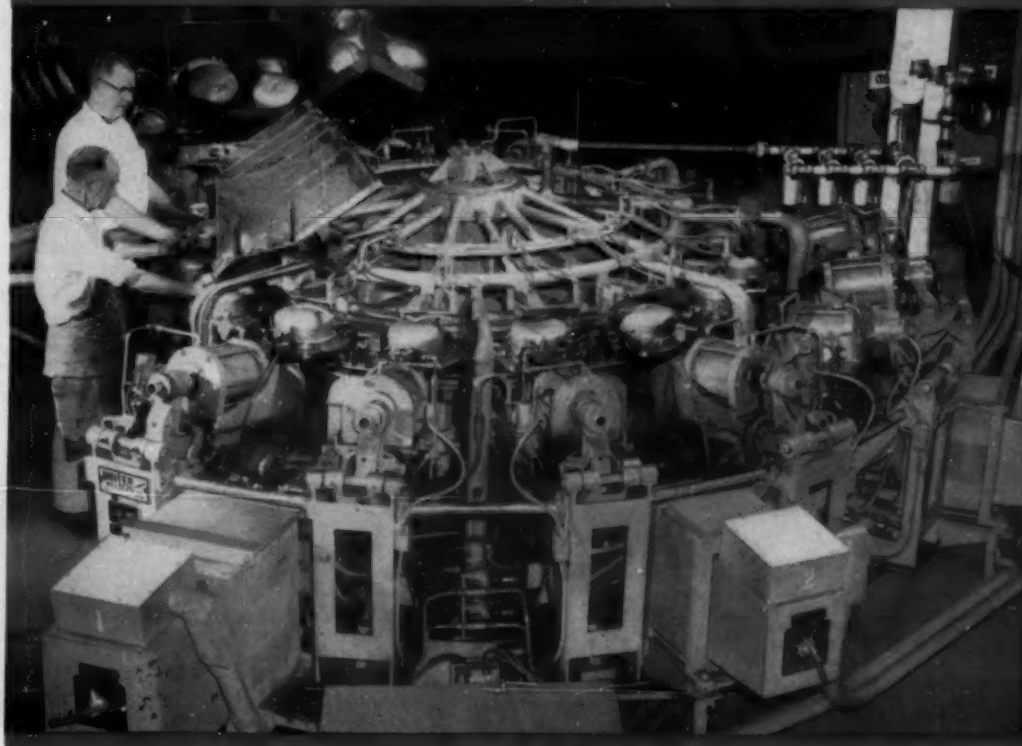
A business meeting will be held on Saturday from 9 a.m. to noon.

## M. G. Finke To Represent Dunham-Bush In Milwaukee

WEST HARTFORD, Conn.—Maxwell G. Finke, sales engineer for Dunham-Bush, Inc., will represent that company in Milwaukee.

It has been reported incorrectly that Finke's territory would be Chicago.

## To Serve You Better...



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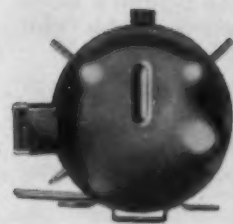
On Kelvinator's production lines, compact "SPACE-SAVER" compressors, units and systems are built to highest standards of quality to give you complete dependability, superior performance... and they are competitively priced.

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### Buckeye RSES Elects New Officers

PICTURED are new Buckeye State Association officers of RSES who were elected at the 11th annual state convention which was held in Columbus, Ohio. Standing (l. to r.) are Ivan C. Stepnich, Columbus, state educational chairman; A. A. Peffley, Piqua, state vice president; R. Thomas Brett, Akron, state president; R. N. Schneider, Cleveland, state secretary; Byron E. Swartz, Upper Sandusky, state treasurer; and W. R. Foster, Toledo, state sergeant-at-arms.

### Memphis Federal Bldg. To Get \$443,700 Central Conditioning

MEMPHIS—I. C. Thomasson Federal building located here. & Associates of Nashville has been awarded a contract for design of a \$443,700 central air 29 for all three floors of the conditioning system for the building at Front and Madison.

## Now Representing...

YORK CORP., SUBSIDIARY of BORG-WARNER CORP. — Ajax Philadelphia, Inc. has been appointed ice making equipment distributor for that area and will also sell it retail.

KOCH ENGINEERING CO. — Nine additional manufacturer's representatives have been appointed to sell cooling towers. They are:

Alfred J. Hamilton, Chicago; Great Lakes Air Conditioning Co., Detroit;

Ralph Simmons, Buffalo;

Boulder Parts Corp., Green Bay, Wis.;

Sanford Mechanical Equipment Co., Inc., Oakland, Calif.;

R. T. Andrews, Sacramento, Calif.;

Dave Masters, Fresno, Calif.;

Roy Huemoeller, Santa Clara, Calif.;

Thomas J. Olesko, Rensselaer, N. Y.

PERFECTION INDUSTRIES, DIV. of HUPP CORP.—Eight new wholesale distributors have been named. Those for furnaces and air conditioning units are:

Furnace Supply Co., Birmingham, Ala., for the entire state;

Noland Co., Augusta, Ga., in 16 Georgia counties and six in South Carolina;

D. N. Latus Co., Helena, Mont., in Montana and northern Wyoming;

Endicott Co., Philadelphia, for eight surrounding counties and two in New Jersey.

Appliance wholesalers (including room air conditioners) are:

Ohio Valley Hardware Co., Evansville, Ind. trading area;

Lincoln Supply Co., Syracuse, N. Y. trading area;

Chillicothe Hardware Co., Chillicothe, Ohio, for 20 central-southern counties;

J. George Fischer & Sons, Saginaw, Mich., in Michigan counties from Saginaw north.

BUENSOD-STACEY, INC. — Glassner Equipment Co. has been named sales representative in the Pittsburgh area.

BARNEBEY-CHENEY CO. — Technical Service Co., Albuquerque, N. M., has been appointed sales representative for "PurAir" activated charcoal air purification equipment throughout New Mexico.

E. H. Henderson of Sackville, New Brunswick, Can., has been named sales representative in New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland provinces.

REMINGTON CORP.—John R. Vogt, Cazenovia, N. Y., will handle room air conditioners in upstate New York.

TUCK-AIRE FURNACE CO.—McPherson Furnace & Supply Co., Portland, Ore., has been appointed distributor for Atlas furnaces and air conditioners.

MATHES CO., INC.—Appliance Installation & Service Co., Detroit, has been appointed distributor for air conditioners.

PHILCO CORP.—Graybar Electric Co. has taken on distribution of Philco major appliances and television in its Portland and Eugene, Ore., and Detroit and Grand Rapids, Mich. branches.

DRAGO CORP.—F. E. Tapy, Omaha, Neb., has been named distributor of heating units in 66 Nebraska and seven Iowa counties.

RHEEM MFG. CO.—Southern Pipe & Supply Co., Inc., Meridian, Miss., has been appointed central air conditioning distributor for Mississippi.

QUICFREZ, INC. (Fond du Lac, Wis.)—Six new distributors for refrigerators and freezers have been named.

Bybee & Allen was appointed in Cove City, Ky.;

Moore Fischer Distributing Co. has been named in Charleston, S. C.;

Southern Indiana Wholesalers, Inc., was named in Evansville, Ind.;

Buchan Supply Co. in North Wilkesboro, N. C.;

Erie Industrial Electrical Supply in Erie, Pa.;

Empire Sales Corp. in Seattle.

TUBE MANIFOLD CORP.—Appointment of C. G. "Mutt" Baker, Atlanta, and E. E. Weil, Elizabeth, N. J., as factory representatives for TMC molecular sieve filter-driers has been announced.

HOTPOINT CO.—Graybar Electric Co., Erie, Pa., will replace W. A. Case & Son as franchised distributor for appliances and television in that territory.

MARLO COIL CO.—Appointment of Dale Weitman & Co., Beloit, Wis., to represent the line of air conditioning and heat transfer units in that area has been announced.

EMERSON-QUIET KOOL CORP., SUBSIDIARY of EMERSON RADIO & PHONOGRAPH CORP.—Eugene J. Straus, former sales manager of Mayflower Sales Co. in St. Louis, and Milton J. Wise, former secretary of Missouri Furniture, Inc., has formed Straus Sales Co. and will serve as direct factory representative and distributor of room air conditioners in eastern Missouri and central and southern Illinois.

RESEARCH PRODUCTS CORP. (Madison, Wis.)—Appointment of Western Sales Service, Denver and Salt Lake City, as representative in Colorado, Utah, Wyoming, Montana, and southern Idaho has been announced.

MARKEL ELECTRIC PRODUCTS, INC. and LASALLE PRODUCTS, INC.—William A. Foley, Kansas City, Mo., has been named sales representative for the two firms in Kansas and western Missouri for "Heetaires," portable fans, and other items.



Wagner Type RA Single-phase Motor  
Repulsion-start Induction 1 through 5 hp.

## NOW...Wagner's high starting torque Integral hp single-phase motor is available in the latest NEMA frame sizes!

The well-known Wagner Type RA Motor is the work-horse of the single-phase motor field. This repulsion-start, induction-run motor combines the best features of the repulsion motor in starting, with those of the induction motor while running at rated operating speeds—ideal for applications requiring high starting torque.

No other single-phase motor has its ability to continually start heavy loads or perform with such complete satisfaction under continuous service.

Specifically designed for compressors, pumps, machine tools, grinders, and conveyors; it is preferred for many other single-phase high inertia or heavy friction starting applications because of its ability to start such loads with low current and with minimum light flicker.

Let a Wagner field engineer show you how these motors can be applied to your needs. Call the nearest of our branch offices, or write us.

| OLD FRAME SIZE | NEW FRAME SIZE |
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| 203            | 182            |
| 204            | 184            |
| 224            | 213            |
| 225            | 215            |
| 254            | 254U           |

4 pole (1750 RPM, 60 cycle and 1450 RPM, 50 cycle) ratings are interchangeable in mounting dimensions with capacitor-start motors of the same ratings.



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For more information about products advertised on this page use Information Center, page 36.



## Lightweight Self-Powered Engine-Compressors Operate Constant Cooling, Refrigeration Units

MINNEAPOLIS—D. W. Onan & Sons Inc., manufacturer of engines and electric generating equipment, has announced the addition of a new line of engine-compressors for air conditioning or refrigeration applications.

The self-powered, Onan-developed compressors, available in three sizes with capacities ranging from 1 to 5 tons, are offered to manufacturers of air conditioning and refrigeration equipment "for any cooling application where electric power is not readily available," it was stated.

They are intended primarily for mobile use, or for the cooling of any enclosure where a self-powered air conditioning or refrigeration system is required.

### Short-Stroke 4-Cycle, Air-Cooled Engine

The units consist of new high-speed Onan refrigeration compressors directly connected to short-stroke Onan four-cycle, air-cooled engines. This type of construction results in "an extremely compact and lightweight unit," according to the company, which also claims that noise and excessive vibration "are reduced to a minimum" by this single-unit design.

A hub, for mounting a condenser fan, is provided on the front end of the engine crankshaft.

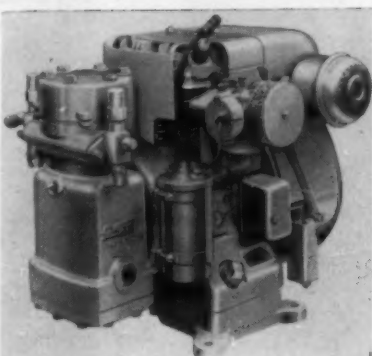
"The heavy-duty, air-cooled, gasoline- or -propane burning Onan engine (prime mover for these new compressors) is designed for continuous operation within its horsepower rating," it was pointed out. "Stellite-faced exhaust valve and valve seats are used with valve rotators to obtain maximum valve life.

### Constant Speed Under Varying Loads

"A built-in governor maintains constant speed operation under varying load conditions. The governed speed is adjustable to permit varying the capacity of the compressor. The electric stator, battery ignition system, and electric choke are designed for 12-volt d.c. operation."

For air conditioning, three basic sizes of Onan engine-compressors, all rated at 40° F. evaporating temperature and 125° condensing temperature per ASRE Test Code procedures are offered.

Model AJ4MC is powered by a 4.1-hp. (at 2,600 r.p.m.), one-cylinder, 14.9-cu. in., Onan air-cooled engine driving a new 4.32-cu. in. Onan-developed com-



SELF-POWERED D. W. Onan & Sons Inc. developed compressors, available in three sizes from 1 to 5 tons, are offered to makers of air conditioning and refrigeration units for "cooling applications where electric power is not readily available."

pressor. Using Refrigerant 12, its rated capacity is 13,500 B.t.u. at rated speed.

Model LK5MC is powered by

a 6.25-hp. (at 2,400 r.p.m.), one-cylinder, 25-cu. in., Onan air-cooled engine driving a 5.5-cu. in. Onan compressor. With Refrigerant 22, its rated capacity is 28,000 B.t.u. at rated speed.

Model CCK11MC is powered by a 12.9-hp. (at 2,400 r.p.m.), two-cylinder opposed, 50-cu. in., Onan air-cooled engine driving a newly-developed, two-cylinder, "V"-type, 11-cu. in. Onan compressor. This model delivers 56,000 B.t.u. at rated speed, using Refrigerant 22.

Optional accessories available include: Engine-driven fuel pump, condenser fan, auxiliary (belt) drive, battery charging generator with regulator, variable speed governor, "Vacu-Flo" cooling, and either a gasoline or a propane carburetor.

Model AJ and Model LK engine-compressor units are available for immediate delivery. Model CCK units will be available in the near future.

## Transport Refrigeration

### Air Condition Mobile Radio Frequency Measurement Lab

COMPLETELY weatherproofed and air conditioned, this mobile radio frequency measurement laboratory makes on-the-spot r-f interference studies. Two generators provide adequate power for internal lighting, air conditioning, and operation of all necessary electronic apparatus.



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### TEMPERATURE LIMITED

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Largest Producer of Air

Conditioning Units outside the U.S.A.

**ON ALL COMMERCIAL REFRIGERATION - AIR  
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Peak Performance  
...regardless  
of job size!*

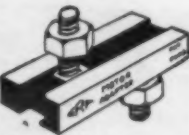
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Sell Many Other Items

Keep them in stock. Servicemen will pick up adapters and motors, carry them in their cars, and complete service on the job in one call. Eliminates delay of having motors away for rebuilding. Adapters are easy to install, fit any base. No motor shaft too long or too short. They also bring you more sales in motors, belts, pulleys, controls, etc.

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for Peak Performance on every job!

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# New Products Displayed

—KEY NO. G-620—

ONE MOTION DISPENSING with "Super Shake" model 77 counter freezer is demonstrated by Robert Arter, representative for Port Morris Machine & Tool Works, Inc. for J. B. Wood (I.) of Food & Machinery Supply Co. of Oelwein, Iowa.



Products shown on this and the following page were displayed at the National Restaurant Association show in Chicago. Other items were pictured in the May 20 and 27 and June 3 issues. For further information on these products, please use Key Numbers and the "Information Center" blank on page 36.



—KEY NO. G-621—

THERE'S NO WOOD backing. This salad refrigerator is made entirely of metal, Mike Stoss (I.) of Allmetal Food Equipment Corp. tells Bernard Ruben of National Store Fixture Co.



—KEY NO. G-622—

LIFE IS A BOWL of ice cubes for Frank B. Demes (I.) district manager, and Pat Conway, factory representative for Lipman Div., Yates-American Machine Co. as they welcome visitors to see the re-modeled Lipman "Ice Boy" cuber.



—KEY NO. G-623—

BRIDGING THE GAP between the commercial and domestic markets is this two-temperature refrigerator introduced by the Jordan Commercial Refrigerator Co. Walter Hirschberg, Jordan distributor in Detroit, points out that the 7-cu. ft. freezer and 17-cu. ft. refrigerator operates on one 1/2-hp. compressor and a single control.



—KEY NO. G-624—

FRAMELESS CONSTRUCTION on sliding doors is feature of this air-cooled, 35-cu. ft. dairy case made by Silver Refrigerator Mfg. Corp., Mel Silver (r.), secretary, tells Milton Golden of B. Golden & Sons, Hartford, Conn.



—KEY NO. G-625—

DRAWING COLD DRINK from the new "Scotsman" combination drink dispenser and ice maker is J. W. Summers (I.) of Fountain Products Co., Chicago. Looking on are M. Krell of Krell Ice Machine Co., Chicago, and F. W. Whitcomb, regional sales manager for the American Gas Machine Co.

—KEY NO. G-626—

WHILE David Brundage (c.), representative for Selmix Dispensers, Inc. mixes a drink with Selmix' new double action upright valve for L. Brown of Leitner Equipment Co., Flip Fallon (I.), another Selmix representative, draws a "coke" from a remote station refrigerated by the same cooling system that chills the dispenser in the foreground.



**Valves are Superior for Refrigeration and Other High-Pressure Services**

Large hand wheel secured to squared end of stem

Packing nut and gland of rugged construction

Long valve stem of cold-rolled steel, made over-size for strength

Ample packing holds pressure while stem turns freely. Special packing supplied for use with Freon refrigerants

When fully opened, button back-seats against bonnet; valve can be repacked while in service

Castings of "May-pul" steel, especially developed for ammonia, Freon and high-pressure work

Patented high-angle seat insures tight closure with minimum pressure. Scale is pushed off the seat as valve enters

DEPENDABLE REFRIGERATION SINCE 1882  
**FRICK CO.**  
WAYNESBORO, PENNA., U.S.A.

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SALUTES THESE FORWARD-LOOKING REPRESENTATIVES OF KOCH  
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FORCED AIR—NO FAN THAT'S NO BOAST ASK OUR REPS FROM COAST TO COAST!

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EVERYTHING'S OPEN on the new self-contained sandwich unit exhibited by Stainless Food Equipment Co. as Eugene Buday, vice president, checks it over.



KEY NO. G-628

ACCESSIBILITY OF control and refrigeration unit from front of cabinet on new Monitor Dispenser Co., Inc. model MF milk dispenser is indicated by J. W. Corbin of the company.



KEY NO. G-6210

LOOKING PLEASED with the ice cubes they find in Ideal Cooler Corp.'s combination beverage cooler and ice cube maker are Mrs. Mitchell Weiss and Mrs. Marvin Weiss. Individual controls on the two compartments keep bottled beverages from freezing.



KEY NO. G-6211

LOW TEMPERATURE automatic defrosting by latent heat is feature of walk-in freezers made by Midwest Mfg. Co., Abe Rohr, Midwest representative (l.) explains to William Benjamin of Benjamin Store Fixtures, Chicago.

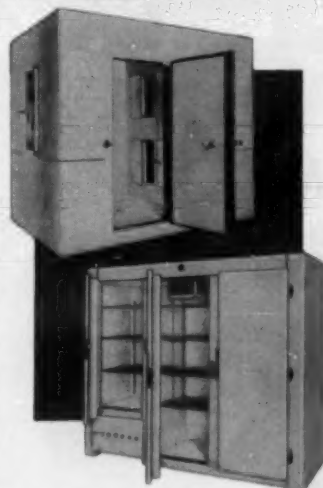
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KEY NO. G-629

SELF-SERVICE ice cream and milk shake machines to cut labor costs are demonstrated by Irv Miller, special accounts manager for Sweden Freezer Mfg. Co.

### Dorsey's To Be Cooled

CHARLOTTE, N. C.—Dorsey's, Inc. has awarded a \$99,750 contract to Myers & Chapman, Charlotte, for construction of its new building here. Southern Comfort & Heating Co., also of Charlotte, has the air conditioning and heating contract for \$18,984.

## ARI Seeks To Reconcile GSA, Defense Conditioning Buying

HOT SPRINGS, Va.—Some of the main objectives that the Air-Conditioning & Refrigeration Institute will work toward in the coming year were outlined at the group's annual meeting here recently.

All 14 product sections will be encouraged to apply their efforts to develop and improve a workable voluntary standardization program, according to Lud Emde, newly-elected president of ARI.

However, overlapping of work being done by other organizations in the industry will be held to a minimum, he added.

George S. Jones, Jr., managing director of ARI, asserted that efforts will be made to reconcile existing air conditioning procurement standards of the Defense Department and the General Services Administration. The government is the industry's largest customer for air conditioning, he noted.

Work on a \$125,000 promotional film on air conditioning will continue, he added.

Further, ARI will prepare a draft of a model air condition-

ing ordinance for use by municipalities, increase sales stimulating promotional activities, and work toward increasing acceptance of air conditioning by the Federal Housing Administration.

ARI is an association of man-

ufacturers of refrigeration and air conditioning products. Mergers and consolidations among members has cut its membership rolls to 159, it was reported. The organization had 170 members when it was formed four years ago.

## Bulletin Explains 'Ideal' Fresh Food Storage

TRENTON, N. J.—Kramer Trenton Co. has announced the availability of a 12-page bulletin covering the new "F" Thermobank which "introduces a new concept in the refrigeration of fresh foods."

The bulletin, TV-380, discusses in detail refrigeration for the ideal storage of fresh foods, the company pointed out. It gives complete information on "F" Thermobank re-evaporative automatic hot gas defrost system which, according to the firm, economically maintains constant temperature and humidity at the 30° or 32° temperature level.

The defrost is completed in less than 10 minutes, the company said, adding: "The infrequent and rapid defrost is

necessary to hold the ideal storage conditions of 30° or 32°."

Complete dimensional and capacity tables, operating facts, specific storage information, and rapid selection tables are featured in the bulletin. "F" Thermobank systems range in size from 7,000 to more than 200,000 B.t.u./hr.

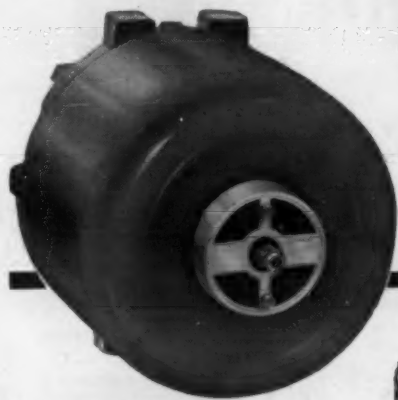
Copies of Bulletin TV-380 may be obtained by writing to Kramer Trenton Co., Trenton 5, N. J.

### SEND FOR REPRINTS

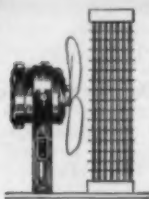
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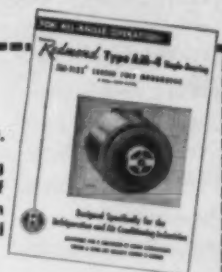
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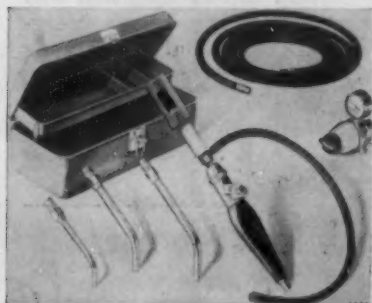
Don Landis of York Gives

## Servicemen Pointers on Installing, Servicing Attic Home Air Conditioners, Other Cooling Equipment

DETROIT—With the trend to hermetic air-cooled remote units gathering speed even faster than was predicted last fall, the refrigeration service man is taking on a new importance in the installation of air conditioning equipment, Don Landis, supervisor of field service training for York Corp., a subsidiary of Borg-Warner Corp., declared here recently.

### 'You Know How To Keep System Clean, Dry'

Such installations demand a mechanic who knows how to keep a system clean and dry, he told a group of Detroit area servicemen attending a school sponsored by York-Detroit Wholesalers.



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Standard Leak Detector Stem (right) in this outfit instantly detects as little as 100 parts per million of halide refrigerant gas in air.

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The terms "Prest-O-Lite" and "Linde" are registered trade-marks of Union Carbide and Carbon Corporation.

Landis provided the men with a wealth of pointers on installing and servicing residential and commercial air conditioning units that apply not only to the York line but to any make of equipment.

Here are some of them:

When installing a self-contained central unit in the attic of a home, he advised cutting an opening in the side of the house larger than required for just exhausting condenser air.

This makes it easier to swing the unit into the attic. The surplus space around the grille can be filled in with an adapter. One is furnished with the York "Pathfinder" unit, he noted further.

### Place 'Emergency' Drip Pan on Joists

Before the unit is finally set in place, he advised placing an "emergency" drip pan on top of the joists under the unit. The unit mounting blocks should rest on the pan directly over the joist, he said, to give a more rigid base. Sponge pads will help to keep vibration at a minimum.

He stressed the importance of blocking the unit to a sufficient height above the top of the joists to provide room for a properly sized return air duct to fit beneath the outgoing sup-

ply air trunk and rest on the joists.

Landis pointed out that the York model HCF204A, attic air conditioner, is designed to pick up condensate on a slinger and dispose of it by throwing it into the air stream of the condenser fan.

He pointed out that a failure in the condensate elimination system could result in damage to the ceiling plaster. Hence the emergency drain pan.

Landis warned that supply and return air grilles should be located and installed before any duct work is begun. Final location of ceiling grilles must be determined before measuring and cutting the fiberglass ducts.

He showed how the filter is inserted in the return grille where it is accessible from the conditioned space.

In installing ceiling grilles, Landis explained, it is advisable after inserting bolts through plaster to wire the nuts to a screw or nail in the joist. Then the joist takes the weight of the grille and duct off the plaster.

Landis' slides showed assembly procedure of the York prefabricated ducts. He explained that the taped edges should be on opposite sides on alternate sections of duct to give added strength. The duct should be installed so that the top panel is

supported by the side panel, to give the duct better resistance to crushing.

Landis emphasized the importance of a good cementing job in assembling the duct sections. The cement, he said, forms a good vapor barrier in addition to providing an air tight seal and structural strength. It also prevents fiberglass material from peeling off inside the duct and getting into the air stream.

He told servicemen that they could save a lot of inconvenience by forming all possible duct lengths before taking them up into the attic, as space limitation makes attic assembly very difficult.

Landis advised assembling the main supply trunk only as far as each branch, assembling branches before going farther. This facilitates cementing and taping of branches to main duct. He recommended cementing inside joints to prevent flaking of fiberglass material.

### Branches 'Should Fit Flush' Inside Trunk

Branches should fit flush inside of the main duct, he said, and not project into it, thus causing air turbulence.

Landis stated that past experience indicates a wetted condenser has a shorter life expectancy than a dry condenser and that algae formations which often result, present not only an unsanitary condition but a service problem as well.

York feels that an attic air conditioner, especially when included in a home mortgage, should operate with a dry condenser.

For this reason the new models are designed with a drain connection under the evaporator coil and have no condensate evaporating system. It is possible that FHA and VA will rule against wetted condensers in the future, he added.

A question was asked; whether it would be practical to mount an attic unit outside on a roof with protection. Landis said he personally disapproved, drawing attention to the many electrical components within the

unit. More service problems and higher failure rate of components would result, he asserted.

At this point a discussion of electrical components was taken up. A description and explanation of starting relays and overload protectors, as well as starting capacitors and running capacitors was given.

The running capacitor can be distinguished from a starting capacitor, Landis explained, in that it is filled with oil, oval or square in shape, usually has a metal casing, and is designed for continuous duty.

A starting capacitor comes in a paper or plastic casing, has a round shape and is good for 20 3-second starts per hour. If it is used continually, it will burn out or could blow up, he warned.

Discussing 24-volt circuits, Landis emphasized that low voltage requires good clean contacts. He showed that low voltage doesn't have the "push" to penetrate film, dirt, or lint.

An illustration of this was the contacts in a thermostat. Although they appear to be closed, the circuit may be open.

For checking low voltage circuits, he said, a voltmeter reading at least from 0 to 30 is recommended over a test lamp.

Continuity and ground tests on line voltage circuits should be done with at least the voltage the motor is run on, Landis said. A pen light circuit tester is useless on a circuit with resistance in it.

It won't penetrate much resistance and the light may give a negative reading, misleading the mechanic into believing the circuit is open.

The York "Champion" line consists of both water and air cooled hermetic condensing units. These remote units are piped, by the installer, to a cooling coil to form a complete hermetic system.

### Why No Soft Solder on Refrigerant Lines

"You have often been cautioned not to use soft solder when soldering refrigerant lines," Landis said, "but you (Concluded on next page)"

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For more information about products advertised on this page use Information Center, page 36.



## Explains Operation of York Units--

(Concluded from preceding page) probably have never been told why. This is why."

He showed cutaway views of pipe soldered with soft solder and brazed with silver-phosphorus solder. He pointed out that the flux used with soft solder draws into the pipe.

It is acidic in nature and carried by the refrigerant to the crankcase of the compressor, it gets into the oil. There it forms sludge and trouble develops.

He recommended that silver braze joints be made without flux and that the pipe should be flushed with nitrogen or inert gas while brazing, to prevent air from oxidizing the copper, causing it to flake off into the refrigerant.

### Dry Nitrogen Specified

He specified dry nitrogen, not just any nitrogen.

"If you don't know where to get it, ask your local telephone company. They use it to pressurize cables," he advised.

The York upflow evaporator coil was shown installed. Landis explained that this coil is for upflow only. If used for downflow, the condensate will not collect in the drain pan, which is made for upflow.

A gas charged expansion valve is furnished with the add-on unit because, when exposed to heat of the furnace in winter, a liquid charged valve could be damaged.

Having a maximum operating pressure (MOP), the expansion valve, he explained, serves the same purpose as a liquid line solenoid valve during the "off" cycle of the compressor. After closing it will not re-open during off cycle unless coil pressure falls below 100 lbs. The systems utilize refrigerant 22.

The blower belt, used by York, is of special design to go through the pulley smoothly without hop or jump making the fan quieter than with a conventional belt, he said.

He warned against leaving the top panel off a remote condenser unit while it is running. The

open top will short cut air away from the draw-through condenser. This would cause the compressor to build up excessive head pressure.

The condenser coil in the York Champion line is equipped with a liquid sub-cooler in the bottom few coils. A pipe, extending down into the receiver picks up liquid refrigerant and carries it to the sub-cooler, then to the expansion valve.

Landis declared that sub-cooling of 22° F. is possible. With solid liquid going into the sub-cooler, approximately 20% more cooling capacity is possible. If gas goes through with the liquid, full capacity cannot be attained, he said.

"When the unit cuts out on low pressure, don't set the pressure switch lower; find the trouble," he told the group.

"The low pressure cut-off is to prevent icing of the coil. If you lower the control setting you're not getting full capacity.

On the York "Embassy" hermetic water cooled units, he told the men, be sure the cooling water is flowing in a direction counter to the refrigerant flow. If the water is piped the wrong way, he explained, you can lose 12 to 14% of system capacity through insufficient cooling.

York's unique oil cooling system for low temperature hermetic condensing unit applications was shown and explained. Several loops of cooling coil are wrapped around and brazed to the shell of the compressor.

### Keeping Compressor Temperature Down

The lubricating oil, coming in contact with the walls of the shell transfers its heat through the wall into the cooling water. This helps to keep compressor

operating temperature down, allowing application with a -45° F. coil.

The York hermetic condensing units are rated as M, L, and VL—medium, low, and very low, the group was told. This refers to low side operating temperatures and pressures.

Hermetic units have both maximum and minimum load limitations. Maximum load (a combination of discharge pressure, suction pressure, and line voltage (high or low)), is a limit fixed by sizing the motor overload protector to prevent overworking the motor.

Minimum load, expressed as suction pressure at the compressor, is a limit which can be protected by the low pressure control setting. Units on low temperature applications are more critical, in this respect, than medium temperature.

High discharge gas temperatures result from high compression ratio and temperature of

suction gas entering the compressor.

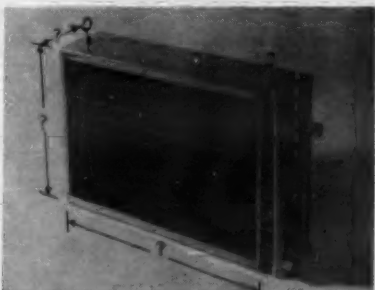
The super-heated discharge gas should never exceed 275° F. to avoid compressor damage.

The York hermetic compressor is "gas cooled." Heat from motor windings is transferred into the suction gas. It was emphasized that a gas-cooled compressor should never be used to evacuate the system for it must have gas flowing over the motor. Otherwise it will overheat and can burn out.

### Wm. McNamara Dies

ST. PAUL—William McNamara, 62, a sales manager for The Trane Co. for 26 years, died recently after a brief illness. He was a member of many engineering societies including the American Society of Heating & Air-Conditioning Engineers and the American Society of Refrigerating Engineers.

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# Selling for Profit—(In Residential Air Conditioning) Salesman Must Be Specialist In 'Comfort Conditioning'

By Frank Klein

If you have shied away from the allied services, such as heating, ventilation, and insulation, that contribute to the effect of comfort conditioning, your days are numbered in the residential comfort field. Get with it! You are not selling "products," you are selling EFFECT!

I ask you, can a field of endeavor survive for long, Divided? Can you justify the existence of one group of people specializing in winter comfort conditioning and still another specializing in summer comfort conditioning?

In my opinion and experience, the answer to these questions is a big fat NO!

The successful survivors must be specialists in COMFORT CONDITIONING—winter and summer.

## Consumer 'Demands' Year-Round Comfort

The consumer in the residential field is arriving at the point where he now demands the enjoyment of year-round indoor comfort.

The warm air heating contractor, because of prior experience in the residential field, in most cases has a good working knowledge of the principles involved in the distribution of air and much of the mechanical problems common to the cooling cycle. Though technical adaptations must be interposed, the relationship is undeniable.

Too, the warm air heating contractor is usually shop-equipped with tools and sheet metal fabrication facilities necessary for constructing a distribution system for air.

## Heating Man Has Residential Experience

From years of experience in the residential field he is usually well informed regarding building contracting procedures and practices. He has more than a nodding acquaintance with a good share of the residential builders, architects, etc. Most important of all his experience is one of doing business with the homeowner.

The so-called air conditioning contractor was developed from many sources. Mostly they are engineering specialists from the refrigeration field, for much more technical knowledge of mechanical processes is demanded in the cooling cycle application than the heating cycle.

Such contractors until a few years ago concerned themselves only with the application of their principles to commercial installations. Thus their knowledge of the consumer residential market was and still is defective.

Furthermore, from an approach of specializing in the application of the mechanical refrigeration cycle, came the tendency to subcontract much of the work found normal to the warm air heating contractor.

This is TODAY and TOMORROW! I claim there are weddings in progress with the necessity for more marriages every minute between the two divided fields. Those who would

This series of articles is for those who seek to know the basic "appeals" and principles in selling residential air conditioning. This is the thirteenth and last article in this series.

be a success in the residential fort air conditioning job—parts of the other segment, COOLING.

HEATING, VENTILATING, To be a success in the residential comfort conditioning segments of every indoor com- field of the future, if not of the

present, will demand a contractor able to supply all of these services.

With the appearance of simple and highly adaptable "add-on" equipment for cooling, the importance of the heating field as a Siamese twin to cooling becomes apparent.

According to the American Gas Association an estimated 1,300,000 gas house heating customers were added during the 1956-57 heating season. This is an increase of 8.5% over 1955.

An additional 3.7 million new gas house heating customers will be added by the end of 1959.

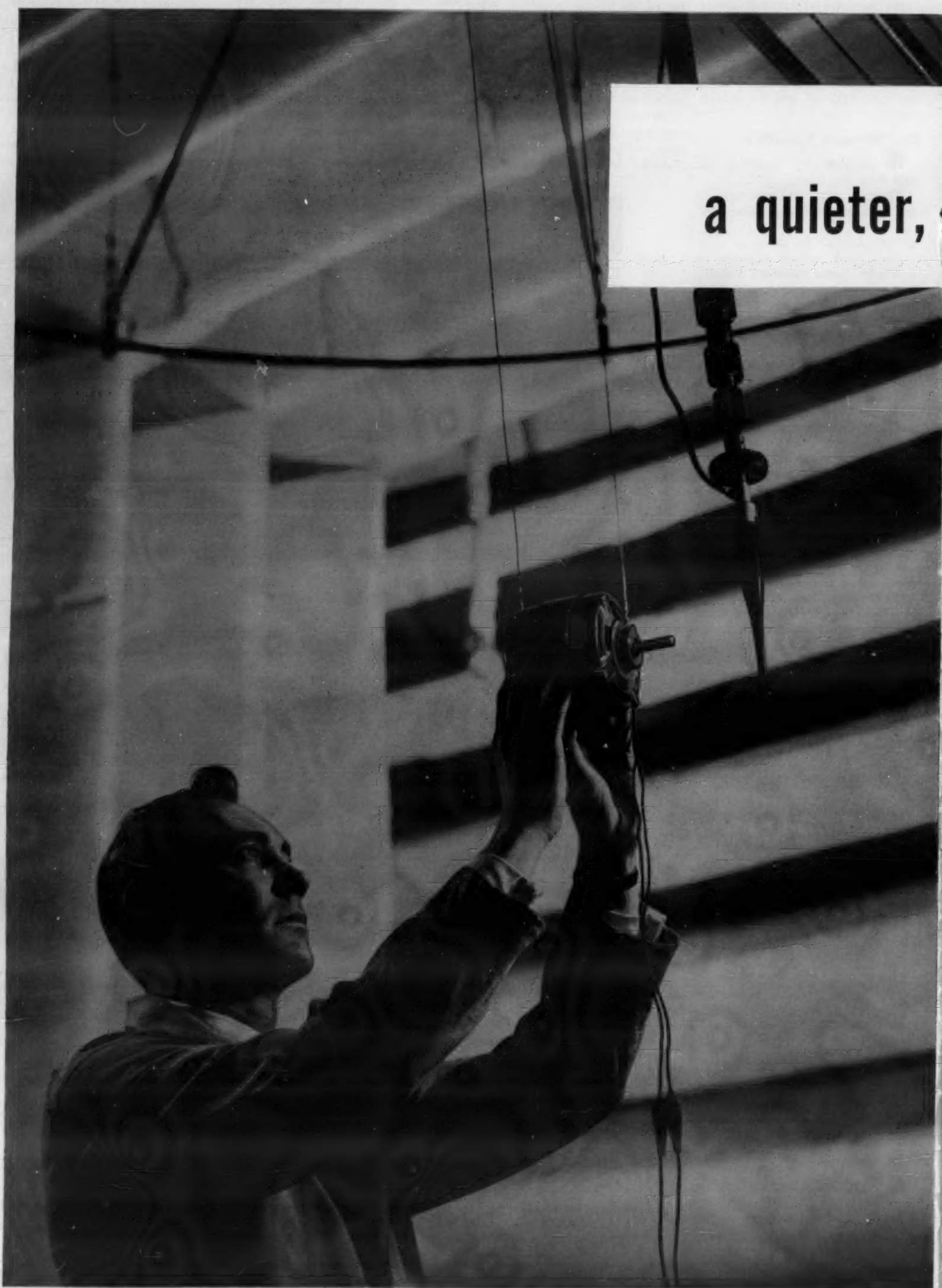
The most significant gains for the next three seasons will be:

(1) East North Central region; i.e., Illinois, Indiana, Michigan, Ohio, and Wisconsin.

(2) The Pacific Region; i.e., California, Oregon, and Washington.

(3) The Middle Atlantic area; i.e., New Jersey, New York, and Pennsylvania.

(Continued on next page)



a quieter,



## Selling Residential Cooling--

(Continued from preceding page)

(4) The West South Central Region; i.e., Arkansas, Louisiana, Oklahoma, and Texas.

The greatest anticipated gain in any one state will occur in California where approximately 563,000 additional dwellings will use gas for heating.

New home construction will account for 60% of these new gas house heating customers.

In specific areas, anticipated conversion (which is a sitting duck for add-on cooling at the same time) of existing dwellings continue to exceed new homes as a source for gas heating.

In New England 78% of the anticipated gain will come from converting from other heat sources; East North Central indicates 59%, West North Cen-

tral 58%, and the Middle Atlantic Region 52%.

These are but a minute abstract of the vast field opened to residential cooling-heating market specialists.

### WHY INSULATION AS A SEGMENT?

The important answer to this question is that insulation is as important for keeping heat OUT as it is for keeping cold OUT; as important to keeping cold IN and heat OUT as for keep heat IN and cold OUT.

Insulators have made big issues in the northern plains states, the northeast, etc., about insulating to reduce drafts, cold, etc., as well as reducing heating costs in the winter.

In residential cooling it is of equal importance for the same purposes of efficiency, economy, etc.

Radiation, conduction, reflective insulation, etc., are as much a part of the cooling cycle as they are of the heating cycle. Insulation is another engineered

segment of an entire comfort conditioning job. It therefore is a part of your responsibility as a comfort conditioning contractor and engineer.

Did you ever estimate a cooling and/or heating load wherein you did not have to take into consideration the "K" factors involved in the sensible ratio? The "U" factors involved for the insulation?

### Insulation Interrelated

Because insulation is so interrelated to the economy involved in the over-all cost of a comfort conditioning system to the consumer, you as a contractor are as involved in this segment as you are in heating, cooling, and ventilating; thus why not have the game as well as the name?

### WHY VENTILATING AS A SEGMENT?

This is no bid for you to sell attic fans as such, nor trade your service gauges for c.f.m. volume evacuation calculations. However, like insulation, "heat trap" evacuation by air movement is important to the economy involved in the over-all cost of a comfort conditioning system to the consumer, so much so that you as a contractor are as involved in this segment as you are in cooling, heating, and insulation. Ventilating fan business in connection with cooling cycle equipment can be big business.

### Must Be 'Merchant of Indoor Weather'

Without further detail along this line I make a strong bid for my point—to be the successful contractor in the field of residential indoor comfort you must be able to offer the entire effect of indoor comfort regardless of the season; you must be a "Merchant of synthetic indoor weather."

This is the age of the family. Hundreds of thousands of words each day are printed in family and home magazines and publications emphasizing the family circle, the orientation of that circle within the home, enjoying residential comforts and pleasures.

More and more each day, with this emphasis on centralizing family activities within the home, comfortable atmospheric conditions inside, regardless of those outside, become a necessity.

William H. Scheick, AIA Executive Director, Building Research Institute, and technical advisor to *Parents' Magazine*, in a recent article says that: "Perhaps the most important contribution of air conditioning (albeit, comfort heating, cooling and ventilating), the one most frequently mentioned by homeowners, is 'more family harmony and better dispositions.'"

Of what have we spoken in these articles that contribute to the success of a "Weather-merchant," other than the recognition of the existing opportunities in the field of residential selling and the necessity to be properly equipped to offer services in all segments of the comfort conditioning project?

In brief they are:

1. Imaginative selling.
2. Finding people who are ready to buy residential cooling.
3. The importance of know-

(Concluded on next page)

## GENERAL ELECTRIC ANNOUNCES...

# more efficient shaded-pole motor

For your customers' satisfaction, General Electric offers you two important advancements in its 5" dia. unit bearing shaded-pole motor design. This new General Electric shaded-pole motor has a 40% lower sound level, and is nearly five percentage points more efficient than the previous design.

In order to put this new motor on the "very quiet" side, General Electric engineers made extensive use of G.E.'s industrial sound laboratory. Here, the new motor design was tested thoroughly—both free-running and mounted-on-products. As a result, General Electric engineers achieved a marked reduction in over-all motor sound level, and improved sound quality by eliminating objectional noise frequency peaks.

### LESS NOISE MEANS MORE SALES FOR YOU

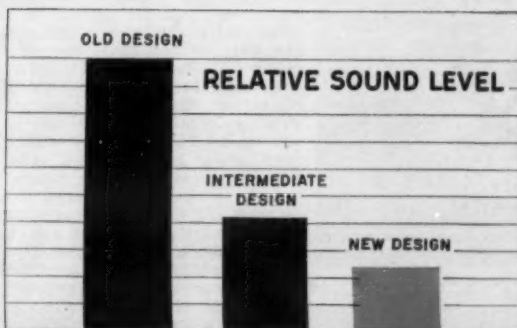
This combination assures you of a truly quiet motor for those applications where noisy operation can mean lost sales—for example, in appliances and air-moving devices for homes, hotels, hospitals, etc. The significant increase in shaded-pole motor efficiency was made possible by a new magnetic stator design—completely new to shaded-pole motors.

This new design decreases watts input between 7 and 20% (depending on the motor rating), without a sacrifice in power output.

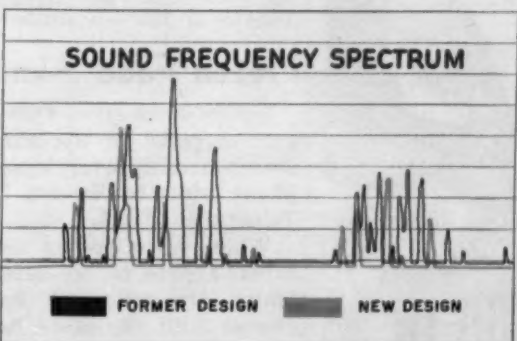
### LONGER MOTOR LIFE RESULTS FROM HIGHER EFFICIENCY

Of course, increased efficiency also results in a cooler-running motor—giving you longer bearing life and longer over-all motor life.

These two new advances are proof of General Electric's continuing leadership in shaded-pole motor manufacture and design. For further information on the many additional features of the G-E shaded-pole motor line, contact your nearby General Electric Apparatus Sales Office, or write: Section 632-7, General Electric Co., Schenectady 5, N. Y. and ask for bulletin GEA-6134.



Bar graph shows that new shaded-pole motor has a 40% lower sound level than previous design, over 74% lower than old-style design.



Actual sound frequency spectrums show how new design motor eliminates objectionable sound frequency peaks, improves sound quality.

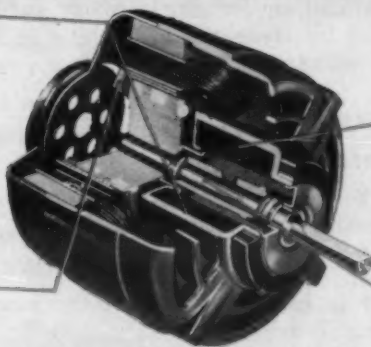
Progress Is Our Most Important Product

# GENERAL ELECTRIC

### PLUS THESE PROVEN BENEFITS OF G-E UNIT BEARING DESIGN

Bearing housing of integral cast design provides accurate alignment for smooth, quiet operation. Sturdy sleeve bearing handles normal radial and axial thrust loads in any mounting position.

Large die-cast fan integrally cast on rotor assures maximum heat dissipation for longer motor life.



Large capacity sealed oil system is designed for years of dependable service without re-oiling, permits all-angle mounting.

Forced lubrication system provides constant supply of recirculated, cooled, and filtered oil for longer life, quieter operation.



## Selling Residential Conditioning--

(Concluded from preceding page) ing how to best present the story of your product.

4. Selling products that make life worth living.
5. Financing your sales.
6. Who and what influences your sale.
7. Being competitive.
8. Selling quality and handling price.
9. The value of quality and its relationship to price.
10. Versatility of products and services.

All of these were aimed at making it possible for you to be that successful Weather-merchant. All of them were dedicated to the upgrading of methods for sales approach in the consumer residential market.

One of the country's largest corporations conducted, some time ago, a survey of over 600 salesmen, to determine why some fail while others succeed. The findings:

|  |       |
|--|-------|
| Lack of interest . . . . .             | 31.0% |
| Didn't follow orders . . . .           | 12.0  |
| Inadequate product knowledge . . . . . | 12.0  |
| No fighting spirit . . . . .           | 10.0  |
| No determination . . . . .             | 10.0  |
| Dishonesty . . . . .                   | 8.0   |
| No enthusiasm . . . . .                | 4.0   |
| No tact and courtesy . . . .           | 4.0   |
| Drinking and gambling . . . . .        | 3.0   |
| Poor health . . . . .                  | 1.0   |

Where do you fit in?  
Regardless of the rate of pay

you draw or the amount which you take out of your business; regardless of the method by which you arrive at these amounts, every minute of your business day is worth money.

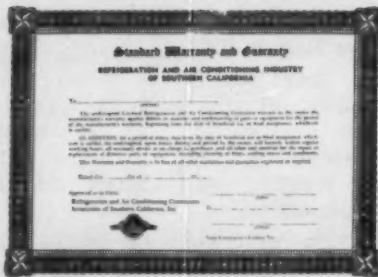
If you have an income of \$400.00 per month, each half hour is worth \$1. Waste an hour each day for a month and it will cost you \$50.

If your time is worth this kind of money, everything you can do to make it more valuable in producing results and profit increases your chances for success.

In a field of opportunity where weather is your product and the ceiling on those opportunities unlimited, you have no time to waste!

No time to waste in bemoaning lost opportunities; analyze them for what went wrong and correct your mistakes. No time to be demoralized when by your own bootstraps you can pull yourself up through sheer determination and ability!

Be enthusiastic, be cheerful, be versatile, be smart, be alert, develop tact, manage your time properly, learn from experience, improve your knowledge, be sincere, be helpful, pursue your business acts on a sound basis of profit, be tolerant, keep your health—AND LAST, BUT NOT LEAST, BE CONFIDENT THAT YOU ARE IN THE MOST EXCLUSIVE BUSINESS ON EARTH!



THIS FORM was carefully worked out by the Business Practices committee and referred to the entire membership of Refrigeration & Air Conditioning Contractors Association of Southern California, Inc., which adopted it for use by the industry.

### Standard Warranty--

(Concluded from Page 1)

looking toward a uniform clause so that costs would be more uniform when contractors consider bid proposals.

Member contractors submitted to the committee various model clauses, and from these the standard form has been worked out. Here is the wording:

**Standard Warranty and Guarantee**  
Refrigeration and air conditioning industry of Southern California

To.....(owner).  
The undersigned Licensed Refrigeration and Air Conditioning Contractor extends to the owner the manufacturer's warranty against defects in material and workmanship of parts or equipment for the period of the manufacturer's warranty, beginning from the date of beneficial use or final acceptance, whichever is earlier.

In addition, for a period of ninety days from the date of beneficial use or final acceptance, whichever is earlier, the undersigned, upon notice during said period by the owner, will furnish, within regular working hours, all necessary service at no charge to purchaser, and all labor and material for the repair or replacement of defective parts or equipment, excluding cleaning of filters, cooling tower and condensers. This warranty and guarantee is in lieu of all other warranties and guarantees expressed or implied.

Dated this.....day of....., 19.....  
By.....(firm name)  
.....(title)  
State Contractor's License Number.....  
Approved as to form: Refrigeration and Air Conditioning Contractors Association of Southern California, Inc.

### Frozen Food Alarm

(Concluded from Page 1)

control panel in the store and simultaneously over leased telephone wires to Newark District Telegraph offices.

When variations in temperatures approach pre-determined limits, the telegraph company checks with the store manager to assure that corrective adjustments are being made.

During off-hours when the store is closed, the telegraph personnel—should the alarm be given—notify the chain's servicing unit and send a man to the store to let the repair man in.

Factors taken into consideration in developing the system included differences in layout of display cases, operation practices, local temperature conditions, type of merchandise, and defrost cycles.

The chain is also supervising temperatures of its fresh meat coolers, it was reported.

### Detroit Warm Air Group Meets June 13

DETROIT—The Detroit Warm Air Heating Association announced that Robert Hundley, chief engineer of William Stienen Co., will speak at its service meeting, June 13, at 8 p.m. at the Fort Shelby hotel.

The board of directors will meet at 5 p.m. Dinner is at 6:30. Hundley's talk will be on combustion drafts, nozzles, and pumps.

## UsAirco Merger--

(Concluded from Page 1)

in the merger agreement which gave UsAirco management the right to "abandon" the merger if 20% of the stockholders objected to it would not be exercised.

Confirmation of the merger by shareholders came after 1,073,956 shares of the firm's 1,514,500 outstanding common shares, and 4,359 of the 4,950 outstanding preferred voted in favor of it. Hughes-Keenan shareholders approved the merger action May 22.

The merged company, which will take the name U. S. Air Conditioning Corp., will have 20 million authorized common shares, with 10,351,090 expected to be issued. Each UsAirco preferred share, under the agreement, will be exchanged for 175 new common shares. UsAirco common shares will be exchanged for new stock on a share-for-share basis, and each H-K common share—with the

exception of Treasury stock which will be retired—will be exchanged for 61.3695 new common shares.

Dividend averages totaling \$33.25 per share on UsAirco preferred, will be erased in the transaction, Way commented. At present, however, 10 of each 175 new shares, for which preferred will be exchanged, will be held in escrow pending settlement of a suit against the merged company. Referring to the suit, Way indicated "we expect to settle this thing very quickly at very little cost to the company."

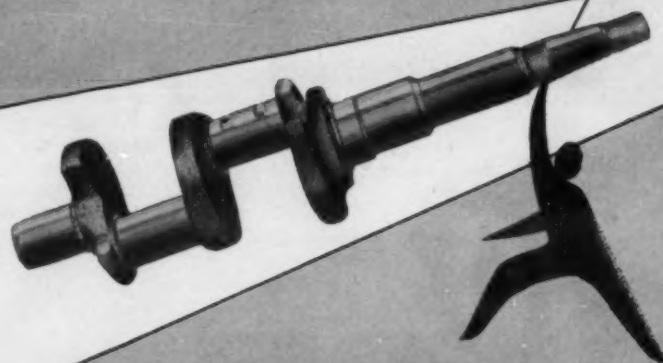
Way noted there were "no immediate plans" for moving any of UsAirco's operations from its Philadelphia headquarters. But he said that one line—blowers—"might be manufactured" at the truck body company's Delaware, Ohio plant.

The proxy statement pointed out that Way "will assume leadership of the merged corporation which he will also control by reason of majority stock ownership."

## SHAFTS by MODERN

Shafts by Modern now power compressors for the leading lines of commercial refrigeration and air conditioning units. For precision SHAFTS, in quantity, consult us. Send blueprints for quotation.

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- ... Local Transfer Cost!
- ... Uncrating Cost!
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WRITE . . .



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Dept. R  
Fort Wayne, Indiana

Gentlemen: Please rush

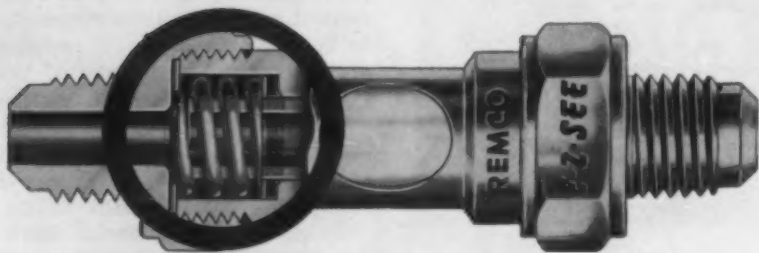
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## SHE'S PUTTING SPRINGS IN E-Z-SEE LIQUID INDICATORS

To you, E-Z-See liquid indicators with spring compensated gaskets mean NO LEAKS—with Refrigerant 12 or Refrigerant 22—at operating pressures through 500 p.s.i. and operating temperatures up to 200° F. and down to minus 40° F!

Double port, easy to see through, spring compensated E-Z-Sees are available with male flare x male flare, male flare x female flare and with extended sweat connections which permit soft or silver soldering without disassembly.

E-Z-Sees are also available with a very sensitive FLO indicator flap directly in the refrigerant stream. With this sensitive flap all variations in flow are instantly indicated.

The full story is given in Bulletin R-11. Write today for your copy.

AVAILABLE TO THE TRADE THRU WHOLESALERS

**REMCO INC.**  
ZELIENOPLE, PA.



## ARI Show Open To Public --

(Concluded from Page 1, Col. 5)

1955. About 300 exhibitors will show their wares, it was added.

In permitting the public to view exhibits for the first time since the ARI Exposition began, the show committee indicated it expects "many thousands" of interested visitors, aside from members of the air conditioning industry, will learn of new developments.

Pointing out that the show comes at a slack period for the air conditioning industry, Exposition officials said that opening the event to the public for the one day will provide manufacturers with a "perfect research tool." They said it will give air conditioning producers an excellent opportunity for face-to-face contact with consumers.

Also, the officials noted, for

dealers in the Chicago area it provides an opportunity—at the nadir of the low season—to give air conditioning a big push with local consumers.

The officials added that the public opening is in the nature of an experiment to see how the idea works out.

Although ARI has no general meetings scheduled during the show, six other industry groups whose members will be attending the exhibition are planning annual conventions in Chicago on dates immediately before, during, or immediately after the show, it was stated.

These include Refrigeration & Air Conditioning Contractors Association, Air-Conditioning & Refrigeration Wholesalers, the American Society of Refrigerating Engineers, National Commercial Refrigerator Sales Association, National Warm Air Heating & Air Conditioning Association, and Refrigeration Service Engineers Society, it was noted.

R. H. Israel of the Virginia Smelting Co. is chairman of the exposition committee of ARI.

## Compressors --

(Concluded from Page 1, Col. 2)

shipped were of the type used in automotive air conditioning. A comparative figure for 1956 is not available, but total 1956 shipments amounted to but 284,022 units.

Figures for compressor bodies, broken down by categories, together with names of reporting companies, follow:

### MANUFACTURERS' SHIPMENTS OF COMPRESSOR BODIES PRODUCED BY REPORTING COMPANIES

(Except for household refrigerators)

| Horsepower*                               | Shipments Including Exports |                 |
|---|-----------------------------|-----------------|
|   | Feb., 1957                  | Jan.-Feb., 1957 |
| 1/2 & under ...                           | 37,513                      | 72,201          |
| 1/4 ...                                   | 67,939                      | 125,417         |
| 3/4 ...                                   | 18,749                      | 32,673          |
| 1 ...                                     | 8,061                       | 16,582          |
| 1 1/4 ...                                 | 57,939                      | 123,322         |
| 1 1/2 ...                                 | 108,124                     | 203,020         |
| 2 ...                                     | 46,626                      | 73,723          |
| 3 ...                                     | 33,982                      | 59,405          |
| 5 ...                                     | 8,310                       | 17,331          |
| 7 1/2 ...                                 | 6,533                       | 14,308          |
| 10 ...                                    | 4,482                       | 8,271           |
| 15 ...                                    | 1,090                       | 1,930           |
| 20 ...                                    | 279                         | 524             |
| 25 ...                                    | 130                         | 385             |
| 30 & over ...                             | 126                         | 319             |
| Total ...                                 | 497                         | 1,042           |
| Total ...                                 | 400,380                     | 750,453         |
| For Ammonia Refrigerant—Total ...         | 112                         | 243             |
| For Automotive Air Conditioning—Total ... | 57,373                      | 105,808         |
| Grand Total ...                           | 457,865                     | 856,504         |

\*For all refrigerants except ammonia (excluding units for automotive air conditioning).

Reporting companies: Airtemp Div., Chrysler Corp.; Bendix-Westinghouse Automotive Airbrake Co.; Brunner Mfg. Co.; Carrier Corp.; Copeland Refrigeration Corp.; Curtis Mfg. Co.; Refrigeration Div.; Frick Co., Inc.; Frigidaire Div., General Motors Corp.; General Electric Co.; Kelvinator Div., American Motors Corp.; Lehigh, Inc.; Tecumseh Products Co.; Trane Co.; The Vilter Mfg. Co.; Westinghouse Electric Corp.; Worthington Corp.; York Corp., Subsidiary of Borg-Warner Corp.

This summary includes all compressor bodies shipped by the reporting companies regardless of whether they were shipped separately or incorporated into a condensing unit or unitary end-use product (such as a room air conditioner, display case, freezer, or commercial refrigerator). Shipments for export are included. Shipments for household refrigerators are not included.

In order to avoid duplication of reporting, shipment figures were requested only from companies that assembled the machined compressor casting with the components necessary to make a complete compressor or motor-compressor assembly.

## April West Penn Room Unit Sales Up

GREENSBURG, Pa. — Sales reports for the month of April in the area served by the West Penn Power Co. show room coolers and dehumidifiers up from April 1956. Refrigerators and home freezer sales are down a little.

In April, 150 room coolers were sold as compared to 109 in April, 1956. Twenty-eight dehumidifiers were sold while 13 were sold last April.

Home freezers sold were 288 in April 1957, 314 in April 1956.

There were 1,099 refrigerators sold as compared with 1,439 in April last year.

The totals for the year, through April 30 are shown as: refrigerators, 3,841 this year, 5,136 in 1956; freezers, 1,243 for 1957, 1,404 last year; room coolers, 242 this year to date and 314 through April in 1956; dehumidifiers, 83 in 1957 over 24 last year to date.

## 'Hydronics' --

(Concluded from Page 1, Col. 4)

the committee is: "Hydronics (hi dron icks), noun: That science relating to hydraulic-electrical combinations, especially with reference to forced circulation of liquids for comfort heating, compatible cooling, zone temperature control, snow melting and faucet water heating. Hydronic (adjective), Hydronically (adverb)."

## Gibson Announces Executive Shifts

GREENVILLE, Mich. — Several changes in executive personnel assignments were made recently by Gibson Refrigerator Co., Div. of Hupp Corp., according to a spokesman for the company.

Al J. Grewe, range sales manager, now is serving also as manager of refrigerator sales. He has assumed the duties of Frank Fisher who resigned as refrigerator sales manager, it was explained.

Bill Browne, formerly manager of food freezer sales, has become midwestern division sales manager, succeeding

George Lubenow, resigned. Also, Browne had added Denver to his territory, the company indicated.

J. F. Klintworth has been named manager of window air conditioner and food freezer sales, having taken on Browne's previous duties in the headquarters office, it was pointed out.

E. R. Vander Linden, divisional sales manager in the California territory, has added the Pacific Northwest territory previously covered by Alex Kuehlthau, resigned, with the exception of the Denver territory, it was added.

Jack Gleason, national food plan specialist, also has resigned.

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top in town



and  
beautiful!

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**Temprite  
Cadet**  
PRESSURE MODEL PA-35

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For more information about products advertised on this page use Information Center, page 36.

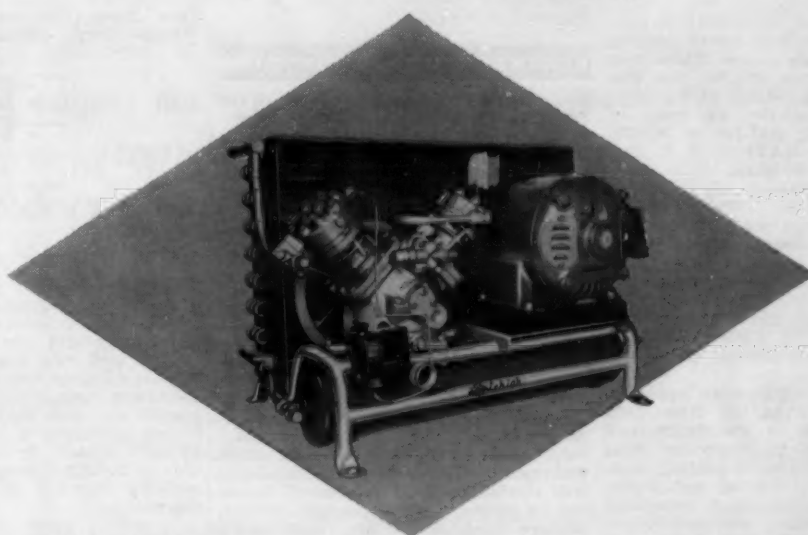
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"Job Tailored" to your specifications  
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—and their unique tubular air-frame base adds complete ACCESS-ability!

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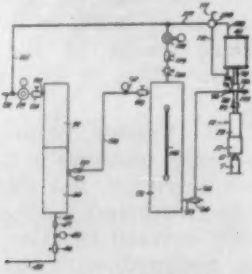
Plant: Lancaster, Pa.  
Export Dept.: 13 E. 40th St., New York, N. Y.





# PATENTS Weeks of March 19 & 26

**PATENTS—week of MARCH 19—TMC**  
2,785,537. **FREON FILLING METHOD AND APPARATUS.** Albert B. Mojonier, Chicago, Ill.

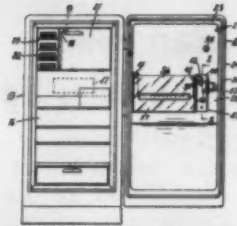


1. In an apparatus for filling containers with a measured quantity of liquefied gas comprising, a pressure filler including a measuring cylinder and means including a piston in the cylinder

for intermittently dispensing a selectively variable quantity of liquid from the cylinder under pressure, a pump for delivering the liquefied gas to the pressure filler under a pressure greater than the vapor pressure of the liquefied gas at the ambient temperature to prevent expansion of the liquefied gas as it enters the filler. . . .

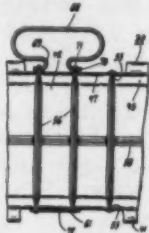
2,785,538. **ICE TRAY FLEXING DEVICE IN A REFRIGERATOR DOOR.** Edmund F. Schweller and Edgar C. Robbins, Dayton, Ohio, assignors to General Motors Corp.

1. In combination, a refrigerator cabinet, a chamber within said cabinet, a door on said cabinet providing access to said chamber, a refrigerating system associated with said cabinet including an evaporator for cooling said chamber to a temperature below 32° F., a flexing device normally disposed in said chamber and exposed to the



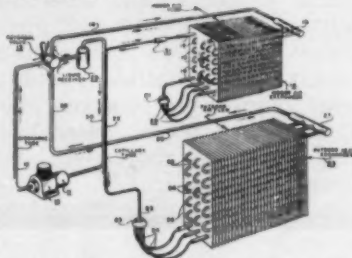
low temperature of said evaporator, a portable ice storage receptacle removably mounted on the inner face of said door. . . .

2,785,539. **ICE EJECTOR TRAY.** Edward C. Simmons and Edgar C. Robbins, Dayton, Ohio, assignors to General Motors Corp.



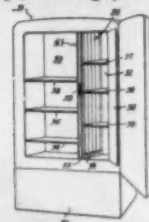
1. A unitary freezing device comprising, an elongated flexible metal tray capable of being twisted from end to end and a plurality of spaced apart walls extending continuously thereacross dividing the interior thereof into compartments in which water to be frozen into ice blocks, said tray being provided with openings in the long upright sides thereof, said walls being provided with a projection at each of their ends, a portion of the projections on said walls extending into opposed openings in the sides of said tray and loosely anchored therein to render said walls bodily shiftable in at least one direction. . . .

2,785,540. **HEAT PUMPS.** Gerald L. Biehn, Needham, Mass., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa.



1. A heat pump comprising a refrigerant compressor, an indoor air heat exchanger, an outdoor air heat exchanger, means including a two-way expansion means connecting said exchangers, and means including a reversible valve for routing refrigerant from said compressor to said indoor heat exchanger during air heating operation, and to said outdoor heat exchanger, during air cooling operation.

2,785,541. **REFRIGERATING APPARATUS AND MANUALLY OPERABLE MECHANICAL DEFROSTING MEANS THEREFOR.** Clarence E. Albertson, Villa Park, Ill., assignor to Borg-Warner Corp., Chicago, Ill.



2. A refrigerator cabinet having a door, means including a baffle having a plurality of louvered openings and disposed in said cabinet to divide said cabinet into two chambers, a metallic flexible member disposed in one of said chambers, evaporator conduits supported on said flexible member and means including a hand grip carried by said metallic flexible member operable to facilitate manual flexing of said metallic chamber to crack ice formed thereupon.

2,785,542. **CAPILLARY COUPLED HEAT EXCHANGERS.** Jesse B. Thomas, Louisville, Ky., assignor to Reynolds Metals Co., Louisville, Ky.

1. In a cooling apparatus: a condenser tube and evaporator tube forming a continuous length of tubing closed

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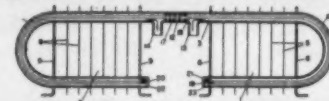


**Editor's Note:** Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented.

Printed copies of patents, reissued patents, and patent designs may be secured from the Patent Office; patents and reissues are 25¢ each, while designs are furnished at 10¢ each. Copies should be ordered by number and title and a mention of the fact if they are either Designs or Reissues.

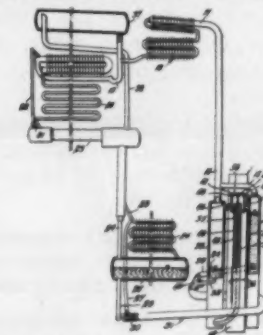
Address orders for any of the above to: Commissioner of Patents, Washington 25, D. C.

at its ends; a partition adjacent the middle of said tubes; a condenser inlet and an evaporator outlet for said respective tubes adjacent the middle on opposite sides of said partition; and a



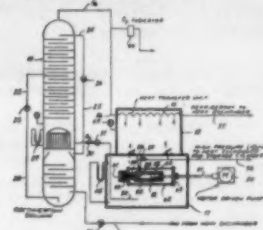
capillary tube open at its ends extending through said condenser and evaporator tube from closed end to closed end and in sealing relation through said partition, to provide counter current flow in the capillary tube from one end to the other relative to flow through the condenser and evaporator.

2,785,543. **ABSORPTION REFRIGERATION SYSTEM.** Wilhelm Georg Kogel, Stockholm, Sweden, assignor to Aktiebolaget Elektrolux, Stockholm, Sweden, a corporation of Sweden.



1. In the art of refrigeration with a system having a place of absorption and a place of pumping at which absorption liquid is raised or lifted from one level by vapor-lift action to a higher level for gravity flow to the place of absorption, the improvement which comprises flowing absorption liquid from the place of absorption to the place of pumping in heat exchange relation with absorption liquid flowing from the place of pumping to the place of absorption, thereafter dividing the absorption liquid flowing from the place of absorption into several paths of flow leading to the place of pumping.

2,785,544. **METHOD AND APPARATUS FOR PUMPING VOLATILE LIQUIDS AND RECOVERING VAPORS IN CONNECTION WITH THE PUMPING OPERATION.** Isaac H. Levin and Herman A. Lorenz, Belleville, Ill., assignors to Independent Engineering Co., Inc., O'Fallon, Ill.

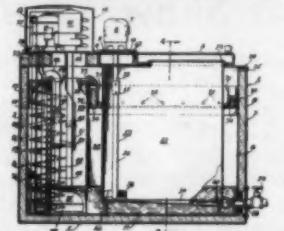


1. In an apparatus for pumping volatile liquids: a pump for the liquid; a container means having a lower portion to receive the volatile liquid to be pumped and for surrounding and enclosing the pump, and having an upper portion open to the lower portion, the upper portion being adapted for receiving and confining vapors of the liquid vaporized by the operation of the pump and escaping upwardly during the pumping operation. . . .

2,785,545. **BULK MILK COOLER.** Raymond D. Fusey, Smyrna, Del., assignor to Wilson Refrigeration, Inc., Smyrna, Del.

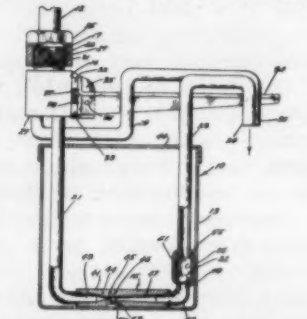
1. In a milk cooler, the combination comprising a compartment, a bulk milk container housed in said compartment closely spaced within the walls thereof and having an opening in its top for reception of milk through the top of said compartment, a second compartment comprising a liquid reservoir

adapted to receive and cool a body of refrigerant liquid, said second compartment



ment having an opening at the top thereof, a self-contained refrigerating unit mounted detachably on said second compartment. . . .

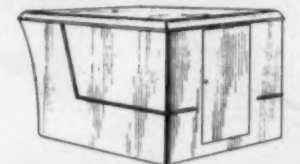
2,785,546. **REFRIGERATOR DISPENSER FOR CONCENTRATES.** Carl C. Bauerlein, Mukwonago, Wis., assignor to The Dole Valve Co., Chicago, Ill.



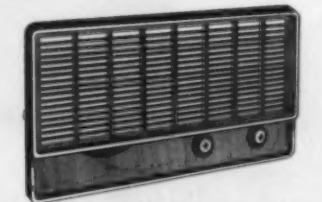
1. In a dispenser for dispensing concentrates directly from a refrigerator, a concentrate container, a Venturi associated with said container for dispensing concentrate therefrom, a water line for connection with a source of water in a refrigerator. . . .

## DESIGNS

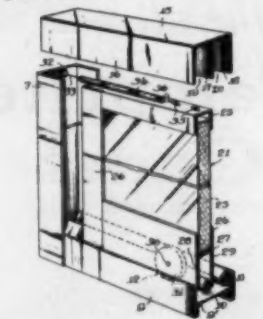
179,884. **HOUSING FOR COIN CONTROLLED DISPENSING MACHINE OR SIMILAR ARTICLE.** Harold W. Darr, Minneapolis, Minn., assignor to Refrigeration Engineering Co., Montgomery, Minn.



179,887. **COMBINED FRONT CONTROL PANEL AND GRILL FOR AN AIR CONDITIONER.** Henry Droyfuss, South Pasadena, Calif., assignor to Whirlpool-Seeger Corp., St. Joseph, Mich.

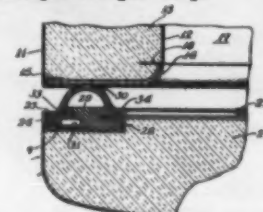


2,786,240. **CABINET.** Albin T. Tobiasz, Norwood Park, Ill., assignor to Leitner Equipment Co.



1. In a cabinet, a guide channel, a door having a pair of rollers rotatably mounted thereon, said rollers being in rolling contact with said channel, spring means urging said door to its closed position, and means engaging one of said rollers in one predetermined position of said door to hold said door against the action of said spring means.

2,786,241. **REFRIGERATOR DOOR AND GASKET SEAL.** Robert F. Garvey and Oliver B. Hall, Evansville, Ind., assignors, by mesne assignments, to Whirlpool-Seeger Corp.



A combined door seal and breaker strip assembly comprising a refrigerator door having an outer shell and an inner panel separated by insulation, said shell being formed with an outer face portion, a rearwardly extending edge portion, and an inwardly extending flange portion. . . .

(Concluded on next page)

## CLASSIFIED ADVERTISING

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### POSITIONS WANTED

**NEW YORK** City licensed electrical contractor desires association with air conditioning contract, in New York City area. BOX A5807, Air Conditioning & Refrigeration News.

**ATTENTION** Air conditioning contractor or distributors—can you use an expert service and installation man. Also very good on control. Worked for the past 10 years service and construction supervisor for a large Carrier distributor in the Midwest. 39 years old. Best of references. Available in 30 days. BOX A5808, Air Conditioning & Refrigeration News.

### POSITIONS AVAILABLE

**WANTED—SALESMAN** to sell Carrier ice cube makers. Salary and/or commission. Old established company. Permanent for reliable person with ability. Furnish education, experience, references to MITCHELL'S REFRIGERATION, 817 State Street, San Diego 1, California.

**SALES REPRESENTATIVES** wanted: We have a few desirable territories open in states East of the Rocky Mountains. We manufacture and sell a complete line of sectional coolers, freezers, and hardening rooms. The men we are looking for should be calling on food industries which require refrigerated storage rooms. These men should possibly have another line that is non-competitive. Write giving your experience, lines handled, and territory desired. RECONY SALES & ENGINEERING CORPORATION, P. O. Box 476, Richmond 4, Virginia.

**MANUFACTURER'S REPRESENTATIVE** to sell what we sincerely believe to be the finest walk-in cooler and freezer on the market today. Also complete line of top quality commercial refrigeration. Active sales promotion program. Protected territory available. THE C. SCHMIDT COMPANY, 1712 John Street, Cincinnati 14, Ohio.

**WANTED—DISTRICT** sales supervisors to be located in the New York Metropolitan area, in the South, and in San Francisco to supervise sales offices of manufacturer of heating, cooling, and air conditioning equipment. Send complete information regarding education, experience, and salary requirements to the Personnel Manager, YOUNG RADIATOR COMPANY, 709 South Marquette Street, Racine, Wisconsin.

**WANTED—SALES** application engineers: Mechanical engineering graduates for sales application engineering work in heating and air conditioning by prominent Midwest manufacturer. Reply in confidence giving details of education, experience, photo, and salary requirements to BOX A5793, Air Conditioning & Refrigeration News.

**CHICAGO TERRITORY** open for right district man who knows supermarket business. We already have dealer organization and hundreds of installations. Salary and expenses plus incentive bonus. Send complete information about yourself to BOX A5806, Air Conditioning & Refrigeration News.

### EQUIPMENT FOR SALE

**NEW SILICA-GEL** driers: Complete with flare nuts. 8 cu. in. 1/4" flare \$1.25; 14 cu. ft. 1/4" flare \$1.75; 20 cu. in. 1/4"

flare \$1.85; 20 cu. in. 3/8" flare \$1.95; 32 cu. in. 3/8" flare \$2.50; 8 cu. in. no fittings \$1.65. Orders of \$100.00 or more we pay freight. S. GOODMAN, c/o MRE, P. O. Box 122, North Hollywood, California.

**CLOSING OUT:** A national brand of new refrigeration units 4 and 15 tons at more than 50% off dealer's list price. Also spare parts—condensers, etc. at same low bargain prices. Phone or write for particulars. GROBAN SUPPLY COMPANY, 1139 S. Wabash Avenue, Chicago, Illinois. Webster 9-3793.

**NOTICE:** DISTRIBUTORS, dealers, servicemen, users refrigeration equipment—Repair parts available all models Baker ammonia and Freon compressors. We are exclusive Baker export sales office. Manufacturers' export agents refrigeration, air conditioning, and allied equipment. THE KEISER COMPANY, Paul Building, Utica, New York.

**NATIONALLY-FAMOUS** brand-new condensing units at sensational low prices. 1/4 h.p. only \$34.50. Other sizes up to 1/2 h.p. at equally great savings. Also tremendous values in motor compressor domea. 1/4 hp only \$31.00. Complete selection of sizes up to 1 1/2 h.p. All units fully guaranteed. Write for complete description and price list. MANN REFRIGERATION SUPPLY CO., 440 Lafayette Street, New York 3, N. Y. GRamercy 3-8000.

**CENTRAL HOME** air conditioners: 1-1/2 h.p.—\$200.00 self contained, air cooled condenser, completely assembled and wired. Cooling capacity—15,750 B.T.U. per hour. New in original crates. Quantities limited. Write today BOX A5810, Air Conditioning & Refrigeration News.

### BUSINESS OPPORTUNITIES

**EXCELLENT, LIGHT** commercial refrigeration contracting and repair business in Bay Area of Los Angeles County. Many good maintenance accounts bringing in over \$300.00 per month. Gross \$20,000.00 year. Very little competition; good business reputation. One man can handle but potential unlimited. \$3,000.00 full price. P. O. BOX 529, Hermosa Beach, California.

**COMMERCIAL REFRIGERATION** and air conditioning distributorship: Franchised distributor of nation's leading lines. Established over 25 years in Eastern City. Profitable operation. Present owners wish to retire. Ideal for 2 or more partners. Price approximately \$250,000.00 including inventory, receivables, fixed assets, rolling stock and good will. Present management will remain as long as needed. Terms can be arranged for responsible parties. Inquire BOX A5800, Air Conditioning & Refrigeration News.

**REFRIGERATION SERVICE** and sales: Well-established, going business. Located in central Ohio town. Population about 100,000. Gross better than \$25,000.00 in 1956. Owner selling due to ill health. BOX A5806, Air Conditioning & Refrigeration News.

**FOR SALE—Appliance** store: Sales and service—Domestic thru commercial. Distributor for Gibson since 1877. Two full time servicemen employed. Reason for selling business: was developed as part time job now too big to handle. Location, Central Illinois. Address replies to BOX A5809, Air Conditioning & Refrigeration News.

### MISCELLANEOUS

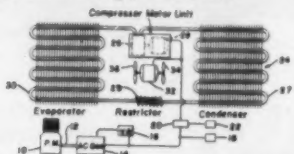
**ATTENTION SERVICEMEN:** Send for free circulars and bulletins on refrigeration parts and equipment. Real money saving values: WALTER W. STARR, 2833 Lincoln Avenue, Chicago 13, Illinois.



# PATENTS

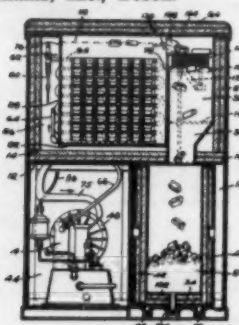
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**2,786,334. REFRIGERATING SYSTEM AND ELECTRICAL COMPONENTS THEREOF.** Alfred A. Wolf, Dallastown, Pa., assignor to Fidelity Instrument Corp., York, Pa.



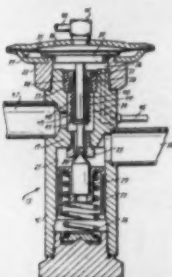
1. The combination of a vehicle including a rotary driving element the speed of which varies as a necessary incident to changes of vehicle speed; an A. C. generator having a field winding, said generator being driven by said driving element at varying speed and having an output whose frequency varies similarly. . . .

**2,786,335. MACHINE FOR MAKING ICE.** Alexander Claxton Cary, Smithfield, R. I., assignor to Hooper, Kimball & Williams, Inc., Boston.



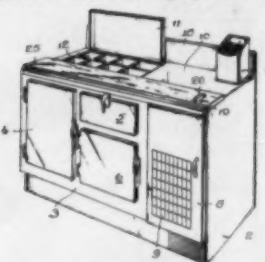
1. An ice cube making machine comprising a tank for receiving water, a pump, a pump for pumping water continuously from said tank into the top portion of said tank, a plurality of ice freezing cups located in the walls of said tank, refrigeration means for simultaneously reducing the temperature of all said cups below freezing during each freezing cycle, defrosting means for simultaneously raising the temperature of all said cups above freezing during each defrosting cycle, means for stopping the operation of said refrigerating means after ice has been frozen to a required depth. . . .

**2,786,336. REFRIGERANT EXPANSION VALVE MECHANISM.** Harold T. Lange, Huntleigh Village, Mo., assignor to Sporlan Valve Co., Inc., St. Louis, Mo.



1. A valve mechanism for controlling the flow of refrigerant to an evaporator of a refrigerating system comprising a valve body, a partition dividing the valve body into separate inlet and outlet chambers, a valve seat port in said partition, a valve pin located in said outlet chamber, and adapted to coact with said valve seat port to regulate flow between said chambers, a valve stem in contact with said valve pin, and extending through said inlet chamber, a spring urging said pin toward a closed position, a diaphragm connected to said valve stem, means for subjecting one side of said diaphragm to a vapor pressure responsive to temperature at the evaporator outlet. . . .

**2,786,337. SALAD REFRIGERATOR.** Theodore L. Spring, Oak Park, Ill., assignor to Leitner Equipment Co.

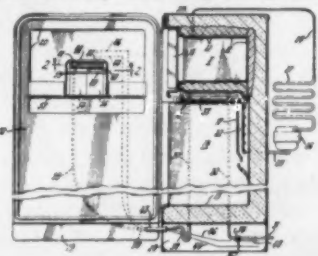


1. A refrigerator cabinet provided with a top wall having a groove extending longitudinally of said cabinet for receiving a cutting board, said top wall having an opening extending through the groove adjacent one end thereof, and a refrigerated compartment having a door hinged to said top wall rearwardly of said groove. . . .

**2,786,338. REFRIGERATING APPARATUS FOR COOLING LIQUIDS.** Clifford H. Wurts and Keith K. Keeling, Dayton, Ohio, assignors to General Motors Corp.

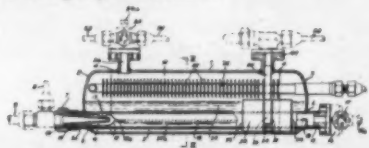
1. In combination a cabinet having a

compartment therein provided with an opening and a movable door normally closing said opening, means for refrigerating the interior of said compartment to a low temperature, a liquid storing and dispensing device



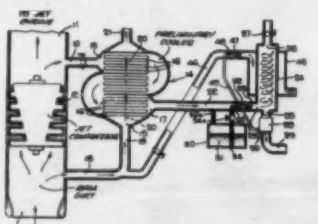
associated with said cabinet, said device including a reservoir stationarily mounted in said cabinet and exposed to the low temperature within said compartment. . . .

**2,786,340. APPARATUS FOR LUBRICATING AND FILTERING THE COOLANT FLUID IN REFRIGERATORS.** Andre Chausson, Asnieres, France, assignor to Societe Anonyme des Usines Causson, Asnieres, France, a company of France.



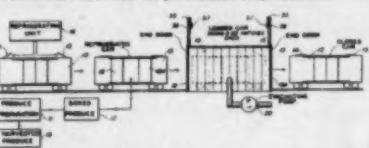
1. A device for the lubricating, filtering, and regulating the circuit containing oil and coolant fluid of compression type refrigeration apparatus, comprising an enclosure partly filled with oil, a connection element communicating with the upper portion of said enclosure and with the suction portion of the circuit of the refrigeration apparatus, a sintered filtering element interposed in said enclosure. . . .

**2,786,341. DIRECT EVAPORATIVE VORTEX TUBE REFRIGERATION SYSTEM.** Frederick H. Green, Los Angeles, Calif., assignor to The Garrett Corp., Los Angeles.



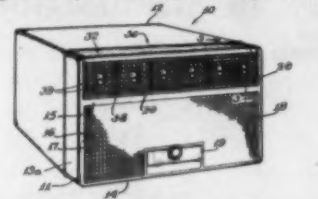
1. In a system for cooling a flow of gaseous fluid: preliminary cooling means for the gaseous fluid comprising a heat exchanger arranged to pass the gaseous fluid in heat exchange relation to other fluid; a vortex tube to receive the gaseous fluid and cool the same; means operative to add to said gaseous fluid, between said preliminary cooling means and said vortex tube, a substance which will vaporize and cool the gaseous fluid; and means connected to the outlet of said vortex tube adapted to remove at least a quantity of said substance from said flow of gaseous fluid. . . .

**2,786,342. VACUUM COOLING.** Charles E. Goetz, Tolleson, Ariz.



In the preparation of produce for shipment in a refrigerator car in a refrigerated condition, the steps which comprise packing the produce in a moist condition in a plurality of permeable packages, loading the packages in the car to produce a permeable pile, introducing the loaded car into a substantially dry evacuation chamber, sealing the chamber with the loaded car in open condition in the chamber, applying vacuum to the chamber so that moisture from the packaged produce itself is evaporated with resultant cooling of the produce. . . .

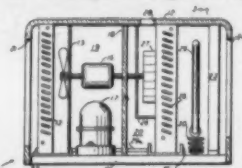
**2,786,407. ADJUSTABLE AIR EXHAUST GRILLE ASSEMBLY.** Canneth D. Saries and John A. Keener, Evansville, Ind., and Theodore H. Koerber, Oak Park, Ill., assignors, by mesne assignments, to Whirlpool-Seeger Corp.



1. In an air conditioner housing the combination of a housing having side walls, bottom wall, rear wall, and top and front walls, the top and front walls terminating short of the upper front corner which is provided with a frame at each end wall defining rectangular end walls and horizontal frame members for receiving an angular cover, a diagonal partition extending from the top edge of the front wall to the top wall across the front

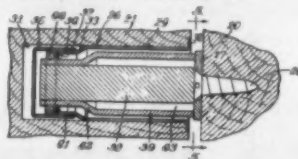
corner and defining an air delivery chamber, said diagonal partition having an aperture and a rectangular conduit delivering air through said aperture. . . .

**2,786,544. AIR CONDITIONER HAVING ELECTROSTATIC AIR FILTER THEREIN.** Ralph F. Connor, Evansville, Ind., assignor, by mesne assignments, to Whirlpool-Seeger Corp.



1. In an air conditioning unit the combination, comprising: a housing having openings therein opening to a space being cooled; a refrigerant evaporator cooler vertically positioned and disposed in said housing in spaced relation to one of said openings and operative for cooling air and simultaneously condensing moisture out of said air as it passes for cooling purposes into heat exchange relation therewith. . . .

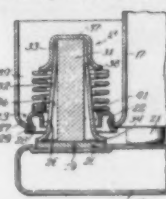
**2,786,702. MAGNETIC CATCH.** Macy O. Teetor, New Orleans, La.



1. In a magnetic catch, a magnet unit adapted to be mounted on one of a pair of door and frame members for coaction with an armature mounted on the other of said members, said magnet unit comprising a magnet element adapted to undergo limited outward movement relative to said one member.

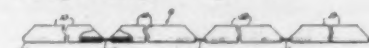
a sleeve of magnetic metal rigidly mounted on said magnet element for movement as a unit therewith. . . .

**2,786,703. MAGNETIC DOOR CATCH.** Macy O. Teetor, New Orleans, La.



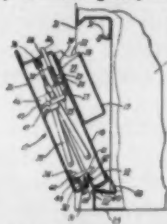
1. In a magnetic catch, a magnet unit adapted to be mounted on one of a pair of door and frame members for coaction with an armature means associated with the other of said members, said magnet unit comprising a magnet element adapted to extend into a recess in said one member for limited inward and outward movement, a sleeve of magnetic metal rigidly mounted on said magnet element for movement as a unit therewith. . . .

**2,786,729. REFRIGERATOR TRAYS.** Robert E. Fields, Evansville, Ind., assignor, by mesne assignments, to Whirlpool-Seeger Corp.



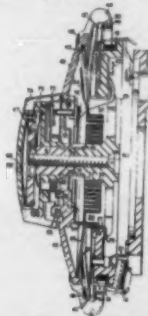
In a refrigerator drawer assembly, the combination of a refrigerator cabinet having an inner liner provided with side walls and bottom wall, a drawer supporting frame of rectangular shape having one side mounted on said liner and the opposite side supported by a vertical leg secured to said frame and resting on the bottom wall of said liner, the said frame comprising four similar molded frame members, each of said frame members comprising a molded member having a vertical yoke provided with a pair of inwardly extending, integral, parallel flanges. . . .

**2,786,730. CABINET EQUIPMENT.** Charles E. Thurston, assignor to Philco Corp., Philadelphia, Pa.



1. In cabinet structure, a wall portion arranged on a side of the cabinet, a storage means disposed rearwardly of said wall portion, and means movably mounting said wall portion for movement in one direction and placement in an outer position to expose said storage means, and for movement in another direction and placement in another outer position to provide a shelf extending outwardly. . . .

**2,786,924. THERMOSTATS.** Carl G. Kronmiller, assignor to Minneapolis-Honeywell Regulator Co., Minneapolis.



1. In a thermostat a circular base member, a temperature responsive resistance element carried in a groove on the periphery of said circular base member. . . .

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## Cooling Off: People . . . Penguins . . . and Pigeons

U. S. District Court Judge C. C. Wyche, after gulping down a glass of ice water, transferred a session of court being held in Greenville, S. C. to Spartanburg. He told the sweating jurors:

"Instead of reporting to the hot courthouse here in the morning, report to our air conditioned courthouse in Spartanburg."

In a recent furious session of the South Carolina Senate, Senator John D. Long of Union County, introduced a resolution to air condition the Senate Chamber. He said air conditioning would help circuit court judges with whom he is feuding "cool their ire" when called to answer before the Senate.

Further, he said, we are "entitled to a place where we can work and give efficient service to the people of this state . . . a place where we won't breathe foul air."

A former patient who had sweltered through hot, muggy days in a hospital bed is responsible for air conditioning being installed in all the rooms of St. Luke's hospital in Racine, Wis.

William R. Wadewitz, president of Western Printing & Lithographing Co., as he lay perspiring through the hot weather, realized that if he were more comfortable he would recover faster. He silently promised future patients that they would have more comfortable conditions by next summer.

The hospital now has air conditioning that he donated—not only for patients, but for employees and hospital visitors as well.

Karl York, hospital administrator, said: "In addition to the personal comfort air conditioning provides, it also has therapeutic value, in the sense it helps to relieve discomfort. The employees are happier too when they are more comfortable."

"That addle-pated pigeon has received more publicity in two days than the Creative Education Foundation has in two years," complained Dr. Arthur M. Coon, associate director of the Buffalo, N. Y. foundation.

The pigeon, nicknamed "Patience," laid her eggs in Dr. Coon's air conditioner, drawing free publicity in the *Buffalo Evening News* and a raft of visitors to the doctor's office.

"Lay an egg in an unexpected place if you want publicity," the doctor counsels. "I even got a call from an air conditioning salesman who said we bought the wrong kind. His kind is 'pigeon proof.'"

Air conditioning of the State Capitol building at Austin, Texas has received House approval for the third time.

The legislators ok'd the idea twice previously but excessive costs and red tape stalled efforts.

The House adopted an amendment by Representative Charles Sundahl, Jr., of Austin, to prohibit use of the air conditioning except when the legislature is meeting.



CAVORTING HAPPILY in the Washington, D. C. zoo, these Emperor penguins find much to remind them of their homeland around the South Pole. In addition to the painted Antarctic scene in the background, they have the same, virtually germ-free air filtered and cooled to 45° F. by a Marlo floor type central air conditioner.

## NEMA Estimates 913,400 Refrigerators Sold In 3-Mos.

NEW YORK CITY—Based upon expansion of data reported to its statistical department to cover total industry sales, the National Electrical Manufacturers Association estimates there were 309,300 electric household refrigerators sold during March of this year as compared with 403,500 in the like month last year.

Industry sales of refrigerators for the first three months are estimated at 913,400 as against 1,028,400 in the same period of 1956.

NEMA reports there were 81,400 farm and home freezers sold in March, 1957 compared with 85,300 during the same month last year. Total sales of freezers for the first three months is estimated to be 223,200 as against 246,800 in the same three months of 1956.

## York Div. Names Neiss Refrigeration Sales Mgr.

YORK, Pa.—Richard C. Neiss has been named manager of refrigeration sales for the Industrial Div. of York Corp., subsidiary of Borg-Warner, it was announced by Ray K. Serfass, Industrial Div. vice president and general manager.

Neiss joined R. C. Neiss York in 1944 following his graduation from Virginia Military Institute where he received the Bachelor of Science degree in engineering.

After taking the York student engineering course, he served successively as an application engineer, sales engineer, supervisor of air conditioning products and assistant manager of air conditioning sales.

## Here's Why

## Dunham-Bush 'CR' Year 'Round Room Air Conditioners provide MAXIMUM FLEXIBILITY



'CR' Console Unit

### FLEXIBILITY... in choice of Construction

That's the keynote of the Dunham-Bush line of 'CR' year 'round room air conditioners. Typical of the variations available: cabinet or recessed models; vertical or horizontal models; combination water cooling and heating coils; combination direct expansion and steam coils; three control kits.

### FLEXIBILITY... in Selection

| Model             | CFM Normal Speed | Water Coil Capacities |                | Inner-Fin Direct Expansion Combination Steam Coil |                |
|-------------------|------------------|-----------------------|----------------|---|----------------|
|                   |                  | Cooling BTU/hr        | Heating BTU/hr | Cooling BTU/hr                                    | Heating BTU/hr |
| CRV-220 & CRH-220 | 220              | 5,600                 | 18,300         | 6,400   | 15,300         |
| CRV-330 & CRH-330 | 330              | 8,400                 | 25,400         | 9,800   | 21,500         |
| CRV-450 & CRH-450 | 450              | 13,200                | 35,300         | 14,900  | 28,000         |
| CRV-600 & CRH-600 | 600              | 21,000                | 55,000         | 23,200  | 45,300         |

Cooling capacities (total heat) based on entering air 80° DB, 67° WB, 45° water (or 40° suction).

Heating capacities based on entering air 60°, 2 psig steam.

### FLEXIBILITY... in Installation

Vertical models with cabinet can be exposed or semi-recessed, basic units completely recessed. Horizontal units with cabinet can be ceiling suspended in conditioned space; basic units can be utilized for unexposed installation.

Contact your nearest DUNHAM-BUSH Sales Engineer for complete specifications or write for 'CR' catalog.

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